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HOW MAY THE SCIENCE OF THERAPEUTICS BE ADVANCED?*

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In studying this subject, it is necessary to consider briefly the conditions under which our present system of therapeutics has developed, practically unaided by the fundamental sciences. The science of bacteriology is of comparatively recent origin; it has enabled us to determine not only the nature of some of the infectious agents, but also their distribution in the body, the effect of external agents on them, and to study experimentally their behavior in animals as well. We are at present in the midst of extensive studies in metabolism, so essential in illuminating the dark places in pathologic physiology, by revealing to us the behavior of cells in diseased states. The same is true of the studies now being made in immunity, information directed at the very foundation of disease. Still more recent is the field of experimental therapeutics, where the action of drugs may be observed on animals in which diseased conditions have been experimentally produced. The effect of diuretics in experimental nephritis is an excellent example of what we may expect from investigations by this method. Studies along the above lines are fundamental and must be understood before therapeutics can be developed along scientific lines. Our therapeutic forefathers are not to be censured, as, with the means at their command, they did surprisingly well. The present unsatisfactory state of therapeutics has not been due chiefly to the lack of properly trained clinical minds, but rather to an insecure foundation on which to establish rational therapeutics. The few valuable empirical remedies now at our command give us only a faint conception of the fruitless efforts of thousands of earnest workers in this field. In the majority of instances the attention of the physician was attracted to these remedies by lay people, who in using countless vegetable substances had detected some with real curative powers. We may perhaps smile at the logic of some of these ancient clinicians, but only when we fail to realize the wonderful advances made in the fundamental branches of medicine in recent years. An illustration of this is a comparatively modern discovery of the value of salicin in the treatment of acute articular rheumatism. Maclagan, an Englishman, was first to make this discovery. In the London *Lancet* in 1876 he describes the beneficial action of this drug, which was the first of the salicyl group to be used in the treatment of rheumatism. Maclagan believed that for all miasmatic diseases there could be found some antidote in plants or trees growing in the same climatic surroundings as favored the development of this particular disease. This he considered one of the wise provisions of Providence and in support of his theory referred to cinchona and ipecac as growing in tropical countries where malaria and amebic dysentery were prevalent. As damp surroundings favored the development of rheumatism, he directed his studies to vegetation growing in low grounds. The willow naturally attracted his attention. He knew that salicin was made from its bark and he thus introduced it in the treatment of rheumatism. In the interesting discussion following his discovery, an English surgeon in South Africa refers to the common use by the Hottentots of a decoction of willow twigs in treating febrile disturbances and especially acute arthritis.

With this haphazard method of selecting therapeutic agents, it is not surprising that many fallacious observations were made and certain drugs acquired unwarranted repute as remedial substances, until, as the result of the accumulation of ages, we are now burdened with a mass of drugs without remedial qualities, or at least without these powers being definitely proved. It would seem that the time had arrived, with our modern methods of investigation, to separate those of real value from the worthless. There is about these questionable drugs which crowd our Pharmacopeia nothing sacred that should prevent our carefully working them over experimentally, and, when essential, clinically, to determine their real value. It would seem that, to place our therapeutics on a real scientific basis, work of this character must be done. It is true that much work of this character has already been performed, especially by the pharmacologist. The therapeutic value or worthlessness of many of these drugs can, however, be worked out only at the bedside. We should not content ourselves by saying that these supposed remedies are in the majority of instances harmless, and, therefore, may be permitted to remain. While we may not be able to modify materially the Pharmacopeia, we, as teachers of medicine, should see that the student is taught only facts, and writers of textbooks in medicine should observe the same discretion in their discussion of treatment, as they do in the pathology and symptomatology of diseases. The subject of therapeutics as taught by the pharmacologist is much less open to criticism from a scientific standpoint than that taught by the clinician. This is especially true, since the chairs of pharmacology in our medical schools have been filled by men who devote their entire time to study, teaching and research.

We have not, however, inherited all of our therapeutic fallacies; many are of comparatively recent origin. The commercial pharmaceutic chemists are largely responsible for a long list of drugs, either valueless or duplicates of existing preparations. They have also furnished us with many valuable remedies. Such preparations are,

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however, almost uniformly exploited in an entirely unscientific, manner, with false statements in regard to the nature of the preparation, and unwarranted claims in regard to their therapeutic value. It is perhaps a conservative statement that the majority of physicians are more interested in and more influenced by this class of literature than they are by text-books in pharmacology. Direct evidence on this point is the frequency with which proprietary preparations appear in the physician's prescriptions. By the proper enforcement of the pure food law and through the activities of the Council on Pharmacy and Chemistry of the American Medical Association this evil is being curbed. The services rendered to scientific therapeutics through the Council on Pharmacy and Chemistry is inestimable and should receive the hearty cooperation of all clinicians.

Another important factor responsible for the present practice of therapeutics is the attitude of many teachers and text-book writers in medicine. It appears that often, while their discussion of the etiology, pathology, symptomatology, diagnosis and prognosis of disease is of highly scientific character, when they pass to the realm of therapeutics, there is a vagueness which is not in keeping with the previous discussion. If we admit that this is true, what explanations may be offered? Are therapeutic facts really more elusive than those of pathology and diagnosis and if so, why? Here it appears a factor is introduced which, to my mind, is more responsible than any other element for the different status of therapeutics, and, we will say, diagnosis. An important function of the physician is to cure disease; he receives his fee chiefly because he is able to benefit his patient. Diagnosis interests the layman only as making prognosis possible and paving the way for treatment. The physician is human and wishes to render service commensurate with his fee. This not infrequently leads to the unconscious ascribing of improvement to the treatment and especially the drug treatment of the condition. The physician, at times, fails to realize that the detection and correction of errors of diet, insufficient exercise or recreation, abuse of alcohol, tobacco or coffee, or unnecessary worry, require as much medical skill and are as fully appreciated by the patient as the administration of drugs. Proper instruction of the patient on these points may be largely or solely responsible for his improved condition. Nevertheless, if he has been given a prescription, this is too apt to be accorded unwarranted credit by the patient and acquiesced in by the physician. He is too frequently unwilling to admit of the futility of the drug. Against his better judgment, he becomes somewhat biased. In the diagnosis, this element does not enter, as the patient is little interested in the name of his ailment, except as to its curability. The physician, therefore, makes these observations in an unbiased manner, and presents them frankly to the patient. Fundamentally, the collection of facts in therapeutics is quite as feasible as in any other branch of medicine, though it may require broader judgment and greater insight into the factors to be considered. We must accept negative results, consider the influence of nonmedicinal measures, as diet, habits, rôle of suggestion and especially must we obliterate self as regards the opinion the patient may have of our abilities as physicians. When the results of treatment are scanned with the same care as matters in pathology and diagnosis, the observations of the physician will consist mainly of facts.

The teacher in clinical medicine, having carefully demonstrated his patient, may feel somewhat embarrassed in admitting that, with our present knowledge of medicine, there is little to be expected from any form of drug treatment. It is, however, only just to our students that we take this stand provided we are certain of our position, rather than give them a list of drugs that have been recommended in the disease, which our knowledge of pathology and pharmacology, as well also as personal clinical experience has shown, are valueless. After all, if the physician thoroughly grasps the actual field of usefulness of drugs, the conditions in which surgical interference is indicated, the importance of hygiene, diet and psychotherapy, when proper individualization is observed, he will be able with our present knowledge of medicine to cure many and to benefit many more.

The clinician, however, has not been alone responsible for the present confused state of our therapeutics. If we can criticize the practitioner as being unscientific, it may be said of the pharmacologist that he is oftentimes unpractical. The main object of pharmacology, from the purely medical standpoint, is to obtain the action of drugs with the expectation of applying this knowledge to the treatment of disease. The pharmacologist, in addition, is interested in the action of drugs from a purely scientific point of view, even when this knowledge has no direct bearing on the treatment of disease. The pharmacologist's shortcomings are largely due to lack of contact with the clinician and especially with clinical material. This, not infrequently, has resulted in his suggestion being too vague and often impossible of application. Perhaps the method of administering the drug in the laboratory is not applicable at the bedside. Few drugs are administered to patients intravenously, yet the majority of our pharmacologic observations are made on drugs injected into the circulation. It would seem that more observations should be made by the pharmacologist on the action of drugs introduced into the stomach. Such a method may be very tedious and the results variable, but they will, nevertheless, show us what to expect at the bedside. Digitalis, when administered intravenously to an animal, causes a decided rise in blood-pressure, and it has, therefore, been taught that its use is contra-indicated in patients with high blood-pressure, although it has been conclusively proved recently that, when administered to man by mouth, it does not raise blood-pressure. Suprarenal extracts when administered by mouth do not increase blood-pressure, and in the laboratory animal rarely increase blood-pressure when given intramuscularly, while in man their intramuscular use is quite uniformly followed by a rise in blood-pressure varying from 20 to 30 mm. of mercury. While the above examples are unusual, they show, nevertheless, the importance of laboratory work, more closely following the clinical method of administering drugs.

Passing now to the means of putting therapeutics on a more scientific basis, a very important measure is the standardization of drugs. The laboratory worker and clinician must be certain of the uniform strength of the preparation used. Excellent work is being carried on at present in this phase of the subject, and has progressed far enough to convince the most skeptical of its importance. Unless the clinician can be assured of the strength of his drugs it is practically futile to undertake comparative observations.

The rapid development of experimental therapeutics is a most encouraging sign of progress. While its field will probably always be limited, it permits the pharmacologist to study carefully in his laboratory the action of drugs in pathologic conditions. The work already

accomplished in the action of diuretics in experimental nephritis is a good index of what we may expect in the future from this line of research.

Closer cooperations of the clinician and pharmacologist would do much to place therapeutics on a more scientific basis. The pharmacologist, with his special training, by working in conjunction with the clinician can carry on at the bedside those observations which he has in the past so creditably performed in the laboratory. This has already been undertaken by Cushny and MacKenzie in England and by Sollmann and others in this country. It is distinctly a step in the right direction. This is not intended to detract from the valuable observations which the clinician alone may secure, as any clinical observer may obtain most valuable information, even with a limited material, provided his attitude is unbiased and he records and interprets correctly the information obtained. These observations, however, can best be carried out in a systematic manner in suitable hospitals. The university hospital should offer ideal conditions; with plenty of free beds and a dispensary as a feeder, it becomes possible to study groups of cases therapeutically. In the majority of existing hospitals, conditions are not favorable for such investigation. There is not a sufficient number of free beds, and these are not and usually cannot be filled with selected cases. In addition, the lack of properly trained assistants and nurses who can be relied on to carry out instructions carefully is most discouraging to the investigator. Such a hospital should be supplied with the necessary apparatus for making careful observations. Under these conditions, the clinician and pharmacologist, working in harmony, could do much to clear away the haze in which our clinical therapeutics is now enveloped. The university hospital is a much-needed institution, not only for the proper instruction of medical students but also to develop research in certain phases of clinical medicine.

With suitable conditions, however, the therapeutic action of only a limited group of drugs is capable of definite clinical demonstration. The action of digitalis, for instance, can be quite accurately observed at the bedside. The character of the pulse, size of the heart, relief of dyspnea, disappearance of edema and increased diuresis give evidence of the action of the drug. With due consideration of the rôle played by rest, it is possible to determine with reasonable accuracy the actual effect of this agent. By multiplying the observation, we can obtain reliable data. There is, however, a rather small group of drugs that can be studied in this manner.

In another very large group of cases, we must pursue another method of investigation. In the majority of the acute infections, it is not the immediate effect of the drug that determines its curative powers, but the way in which it modifies the duration of the disease, the frequency of complications and especially the mortality. The variable duration and mortality of the same infection in different individuals being known, and also the variations in different epidemics and the effect of age and habits, it becomes necessary not merely to collect a large number of cases but actually to conduct a control series. The average clinician lays too little stress on the importance of control cases. We have numerous instances of the fallacy of drawing conclusions from statistics of a series of cases treated in one epidemic and comparing these with a series treated differently in another epidemic. In pneumonia, where the mortality is so dependent on the age of the patient, it would not be fair to compare statistics from a military hospital, where only young robust men are treated, with those from a general hospital where all classes and ages are accepted. In the acute infections, however, it is necessary only to supply properly trained observers with a sufficient amount of material to obtain accurate data.

The investigation of another group of cases offers almost insurmountable difficulties. I refer especially to that class of functional nervous disturbances grouped under the name "neurasthenia." Many — and perhaps most — of the therapeutic fallacies now in our medical literature are due to the misleading results obtained from treating this class of cases. The neurasthenic is a creature of suggestion. A change of physician, a change of medicine or even a change in the flavoring extract used may be followed by marked improvement. The continued growth of Christian Science is largely due to the prevalence of neurasthenia. Psychotherapy has here its legitimate field. With the individual so open to suggestion, it is practically impossible to obtain accurate information in regard to the actual effect of a drug on the condition. Even more confusing to the therapeutists is the group of neurasthenic symptoms which very gradually envelop the patient, suffering from chronic organic disturbances. The patient with carcinoma, chronic nephritis or locomotor ataxia gradually acquires a group of nervous symptoms, the indirect result of the primary disease. It is often extremely difficult to determine which of these are functional in character and which are due to the organic lesions. Patients with a progressive disease like carcinoma may temporarily gain in weight and consider themselves much improved after a change of physician. The relief obtained in this group of cases after taking up Christian Science or certain fake cures is due to the disappearance of these functional nervous disturbances. Reports of marked improvement and even cures in chronic conditions generally recognized as incurable are not confined to the outcasts or hangers-on of the profession. Responsible medical men may often be deceived in this class of cases. At the time when Brown-Séquard's testicular extract came into vogue, some well-known physicians reported remarkable results in locomotor ataxia after its use.

We might multiply the sources of error and the remedies to be applied. The above, however, is sufficient to call attention to some of the salient features. The outlook is exceedingly encouraging, and while we may chafe at the delay, development along the right lines is already well under way. The therapeutics of to-day is far in advance of that even of ten years ago. While new obstacles are appearing, along the entire line there is distinct evidence of improvement. The limitation of drug therapy is better understood, and has led to development along the lines of diet, hygiene, etc. Most encouraging is the stand taken by many of our patients that they prefer to be treated if possible without taking a lot of medicine. Our teachers in medicine are each year growing more conservative. Each year will register the elimination of some therapeutic fallacy and herald the acquisition of therapeutic knowledge acquired by scientific investigation.

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ABSTRACT OF DISCUSSION

DR. GEORGE D. KAHLO, French Lick Springs, Ind.: The tendency in the teaching of modern therapeutics is to dwell entirely too much on the treatment of disease by drugs alone and to give too little attention to the subjects of therapeutic suggestion, climatology, hydrotherapy, exercise, diet and other measures which often are of much greater value than the use of drugs themselves.

DR. JOHN P. SAWYER, Cleveland: It is one thing to look on drugs as having an action, it is another thing to look on drugs as having an action peculiar to this or that tissue of the body. In our common use of the terms "drug action" and "therapeutic effects of drug" we are actually losing sight of what is known to both the physiologist and pathologist, that in drugs, heat, electricity, massage, hydrotherapy, we are using merely stimuli applied to the organism which we are seeking to aid in its struggle against disease, and that the pharmacologist and the medical man can get together a little better with caution in regard to the use of this term "drug action." It is convenient, but it is a little befuddling at times. We think too much of the drug itself and not enough of the personality of the patient with whom we have to deal.

DR. S. SOLIS COHEN, Philadelphia: Dr. Kahlo is too severe in saying that the subject of physiologic therapeutics does not now receive attention in the medical schools. Certainly, in the leading schools the professors of medicine and of therapeutics and their assistants lay great emphasis on all of the measures to which I have ventured to apply that title. In fact, the pendulum now is in danger of swinging too far that way, owing to injudicious and extreme public utterances by certain physicians. Should a patient come to me and say "I want to be treated without medicine," much as I favor that method in appropriate cases, I would tell that patient to go to some other physician. The function of the physician is to help his patient; it may be by suggestion, by a drug, by heat, electricity, mechanical manipulation, diet or exercise, but the physician and not the patient must be the judge of what is the best measure. I dislike all such terms as "cure," "remedy" or "drug action." I protest against the implication that, whatever may have been the situation two decades ago, at present physiologic therapeutics is not thoroughly emphasized. To me the danger seems rather that the medical student and the medical public may underestimate the very potent help that lies in drugs properly selected and judiciously used. Not only must we get rid of the term "drug action," however, but we must also get rid of any implication that it is the drug that works the effect, and not the reaction called forth in the tissues. Nevertheless, without the drug there would be no such reaction. But I do think we must go a step further in our conception of disease—disease as a whole, not special forms of disease. I have formulated the phrase that "disease is the struggle for health." Unless we look at it from that point of view I think we shall be very much misled. Take acute infections as one class, for example. When bacteria invade nonorganic matter or dead organic matter there is no reaction except the mere destructive changes that take place. But when they invade a living organism there is an intense reaction, reconstructive as well as destructive. That whole reaction is disease; hence it is the struggle for health. Unless we realize that it is our duty to guide that struggle and to hold it within bounds, to limit destructive reactions, to aid and supplement reconstructive reactions and to prevent unbalanced reactions from introducing new dangers, and that this is all we can do with our drugs, or our other measures, even our quinin, our salvarsan, our antitoxins, our vaccines—then we are going to make mistakes whether we diet our patients or drug them or simply fold our arms and look at them.

DR. W. BENHAM SNOW, New York: We should not hesitate to use the word "cure" when we can restore normal conditions. Our patients want the encouragement and should have it, provided we have the means to effect it. The idea that we fear to use that term is unfortunate. If I have an early case of sciatica with the neuritis at the sacrosciatic notch, I do not hesitate to tell the patient that he will be well in ten days; that he will be cured—not tentatively, but actually cured, for one who employs the proper method can rarely fail. To the physical measures to which Dr. Solis Cohen referred we are looking for the possibility of actually and promptly curing many conditions. The pendulum has not swung so far yet as it will swing. It is not going backward; it is still going outward.

The use of physical therapeutics is going to be taught in the medical colleges some day as it should be. It accomplishes results that can not be accomplished with drugs, because it actually does the things to restore the tissues to a normal condition. We cannot think of disease under any name. The condition that we find is a symptom-complex; it is not one disease. Each disease has its source in some preceding cause. It is the deteriorated condition which makes possible the inroad, and in the treatment of disease we must not consider alone the condition we find, but we must consider the condition that led up to it and meet the condition from the point of view of nutritional metabolism and restore the nutrition processes. We must treat the patient and not a disease.

HIGH-FREQUENCY DESICCATION, FULGURATION AND THERMORADIOTHERAPY

THEIR USES IN THERAPEUTICS *

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Since the advent of high-frequency electric currents, various investigators have sought to determine their value in therapeutics. The literature on this subject is chaotic, and the opinions of different clinicians of equal standing are at variance. This is probably explained by the fact that there has been no standardization of apparatus or methods, and on account of the great variability of these currents as to strength and quality, hardly any two men who sought to compare results were employing exactly the same currents. To compare, then, the conclusions of men who specialize in other fields and who have not the time to devote to the intricacies of the newer electric methods would be misleading to those who seek exact data and unjust to the originators who have developed an exact technic and are skilled in the use of their own instruments. Of the later electric methods which seem to have a tangible value are high-frequency desiccation, fulguration and thermoradiotherapy.[1]

HIGH-FREQUENCY DESICCATION

Desiccation of living animal-tissue is an effect produced by the proper application of an accurately measured electric current of high tension. For superficial destruction no bare electrode comes in direct contact with the tissue, but the current from one pole is concentrated and thrown from a metal point through an air space to the tissue in the form of sparks of great frequency, the other pole being grounded. For deeper destruction the bipolar method is used; the metal point is brought in contact with the tissue and the large passive electrode is placed at some indifferent part of the body. A static machine of large output (2.5 to 3.5 milliampères) is used to produce the initial current, which is stepped up by a carefully measured capacity (0.00042 microfarads to each Leyden jar), and an accurately attuned resonator. The current from a coil or any magnetic device will not produce the desiccation effect on account of the interruptions in the primary, and as no discharge can be transmitted to the body until such interruption occurs, the current is delivered in a series of hot discharges which render the thermic degree inconstant and the impact against the tissue painfully severe. A steady

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1. The following references, which I am able to add on correcting the proof of this article, will supplement this paper:
Clark, W. L.: The Destruction of Surface and Cavity Neoplasms by Desiccation: A Preliminary Report, New York Med. Jour., June 10, 1911; High-Frequency Desiccation, Its Uses and Limitations in Surgery and Dermatology: A Second Report, Month. Cycl. Prac. Med., August, 1912; Electric Desiccation as an Adjunct to Surgery, with Special Reference to the Treatment of Cancer, Surg., Gynec. and Obst., August, 1912.

flow is necessary as is procured from the static machine, but it must be of large output and subject to perfect control, or it will fall short of the desiccation point.

Desiccation should not be confused with fulguration, high-frequency cauterization or coagulation. The first devitalizes by drying the tissue; the second shocks and produces hyperemia, but does not destroy, and the third is essentially the same as an ordinary cautery, though perhaps deeper in effect. It is possible with this same apparatus, by attaching a controlling device, to produce all thermic degrees, ranging from hyperemia to cauterization. The desiccation-spark is not hot enough to carbonize, but only sufficient to cause rapid dehydration of the tissue, rupturing the cell-capsule and converting the area treated into a dry mass. It has the power of penetrating into the tissue from a small fraction of an inch to an inch, or even more, depending on the frequency, distance of the electrode from the body, time of exposure and density of the tissue. Not only can an area the size of a pin-point be desiccated without infringing on the normal tissue, but a growth of considerable size may be destroyed with one application, though this is not always desirable.

Desiccation destroys tissue without opening blood- or lymph-channels, and will act as a styptic when there is oozing of blood. It sterilizes all tissue on which it acts directly, as has been shown by careful experimentation with cultures taken before and after treatment. The desiccated tissue acts as a foreign body and a positive chemotaxis is promoted, which probably accounts for the rapid repair. The dry crust which forms acts as a natural dressing and separates in from three days to one week. Regeneration of skin or scar-tissue usually takes place underneath the crust. The method is not very painful if applied with correct technic. In supersensitive individuals a local anesthetic is employed, either by topical application, in the case of mucous membranes or ulcerated surfaces, or by infiltration when the area is covered with skin, although the latter is never practiced when there is a suspicion of malignancy, the ionic diffusion of cocain being preferable. In rare cases a general anesthetic is required.

CONDITIONS IN WHICH DESICCATION MAY BE USED

Warts and Moles.—These are usually destroyed by one application. A dry crust at once forms, which separates and falls off in from three days to one week, depending on the size of the area destroyed. Regeneration of skin takes place underneath the crust. The slightly red area gradually fades to normal color. There is no contracture as from a burn, and the cosmetic effect cannot be improved on by any other method. There is no doubt about the wisdom of removing these lesions for other than cosmetic reasons, as it is a well recognized fact that sometimes cancer has its starting point in an apparently innocent wart or mole.

Pigmentations, Vascular Nevi, Angiomas and Tattoo Marks.—The results in these conditions have been very satisfactory. It is advisable to complete the destruction at one sitting, unless the lesions are very large, when a number of applications may be necessary. When these lesions are superficial, new skin is formed; if deep, scar-tissue or a combination of skin and scar-tissue. The cosmetic effect depends on the depth of destruction. Care should be taken to destroy the tissue perfectly evenly and not too deeply, as there may be cupping, irregularity of surface, and if the spark is too hot, even a keloid. This may be avoided, however, by careful technic.

Chronic Varicose Ulcers.—The exuberant granulations are desiccated, after which ordinary methods, such as strapping and the silver nitrate stick is employed. Several cases which had resisted ordinary methods of treatment healed quite rapidly after the granulations were desiccated.

Acne.—An attenuated spark of the same type as above is used, but it is not carried so far as actual destruction. The primary effect is local anemia, followed by an intense hyperemia. This method is very efficient when used in conjunction with proper constitutional treatment.

Growths in the Bladder.—By the use of a catheterizing cystoscope, an insulated wire may be passed through the instrument, the bladder being inflated with boric acid solution or sterile water, and tumors may be readily destroyed by desiccation. When this current is passed through fluids, the intensity should be slightly increased and the wire brought in direct contact with the growth. This work may, however, be done by high-frequency cauterization and coagulation, as has been reported by various writers during the past year.

Rectum.—Using a special air inflation proctoscope through which an insulated wire is passed, growths may be reached for a considerable distance up the rectum. By this method, papillomas, ulcerations, cancers (for palliative treatment) and hemorrhoids, if for any reason operation is refused or contra-indicated, may be treated.

Larynx.—In suitable cases tumors of the larynx may be destroyed by desiccation. The laryngoscope or ordinary laryngeal mirror is employed to expose the interior of the larnyx, and the current applied by means of an insulated wire, curved like a laryngeal applicator.

Eye.—Desiccation may be applied to the conjunctiva in trachoma, dry granular conjunctivitis, epithelioma and to the cornea for granulating ulcerations and pterygium. There is no danger in working near the eye, as the control of the desiccation current is absolute.

Cancer.—Desiccation should be employed alone only in superficial epitheliomas. The destruction should be complete and carried beyond the diseased area. Blood- and lymph-channels are sealed, which would seem to render metastasis less likely. The results have been very satisfactory. In advanced epithelioma in which there is deep involvement of tissue, but without glandular involvement, curettage or excision should be practiced first, followed immediately by desiccation. It is employed in such cases only when the wound is left open. When it is necessary to close the incision, as in cancer of the breast or the cervical glands, desiccation treatment is not to be recommended, because the débris could not find exit, even with drainage.

In cancer of the cervix, if inoperable, desiccation as a palliative measure probably has an advantage over the curet and cautery. It may be done without a general anesthetic; it destroys as effectively, sterilizes, deodorizes and acts as a styptic.

In cancer of the mucous membranes, such as the tongue, the buccal surfaces or the lip, unless seen early, desiccation should not be employed alone, because the glands are usually involved, even though they are not palpable, for the diseased tissue must be accessible if a good result is to be expected with desiccation. The correct surgical procedure then is complete extirpation of the initial lesion and thorough excision of the glands likely to be involved, followed by desiccation if the wound is left open, or by fulguration if sutured, and then by the *x*-ray. In cancer that is absolutely inoperable, the *x*-ray should be applied. There is evidence

to show that seemingly inoperable cancer may sometimes be made operable by the intelligent use of the *x*-ray.

Among other conditions in which desiccation may be considered are: hypertrophic tonsils, in which there is contra-indication to operation, minor nasal growths, xanthoma, granulations on the tympanum, early Paget's disease, lupus, *x*-ray and senile keratoses, chancroids, granulations in the urethra, erosions of the cervix, urethral caruncle, condyloma, keloid, certain forms of eczema and parasitic skin diseases.

FULGURATION

Fulguration is a method advocated and devised by de Keating-Hart, of Paris, to be used in combination with operative measures, especially in the treatment of cancer. The growth with all adjacent glands is first thoroughly excised, and the wound is at once treated with a bombardment of high-frequency sparks from 4 to 8 inches long. The initial current is obtained from an induction coil and stepped up by a capacity such as Leyden jars and an Oudin resonator. The fulguration applicator consists of a curved, hollow, hard rubber tube 14 inches long, the greatest diameter of which is 1½ inches, and tapering so that the end from which the sparks are delivered is one-fourth inch in diameter. A rubber handle 10 inches long is attached to the tube nearly at right angles to protect the hand from sparks. A hollow, graduated, metal tube 8 inches long is inserted into the proximal end of the hollow rubber tube, a stiff wire taking up the rest of the distance to the distal end. Filtered and cooled sterilized and compressed air is passed through the hollow metal tube while the sparks are passing to prevent burning of the rubber, and to blow away blood from the field so that the sparks may strike the tissue direct. The metal tube may be withdrawn so that any length of spark desired may be obtained.

The time of exposure depends on the size of the area to be treated and the character of the condition. Roughly speaking, an average case of cancer of the breast requires about ten minutes to fulgurate it thoroughly. The physiologic action is not positively known, but is probably due to an alteration of nutrition of the tissues, which is said to render the soil less fertile for the proliferation of cancer-cells. Fulguration, as devised by de Keating-Hart, is never used for destruction of cancer or of any tissue. He has shown freedom from recurrence ranging from one to five years, even in advanced cases of cancer. This method is now being tested in Philadelphia and New York, but no positive personal conclusions can yet be drawn.

THERMORADIOTHERAPY

Thermoradiotherapy is a term applied to a new method of applying the *x*-rays, the aim being to increase the efficiency of the rays. De Keating-Hart maintains that the radiosensitiveness of tissue is in direct proportion to its temperature—the warmer the part the more intense the action of the rays, and *vice versa*. To increase the temperature beneath the skin-surface, he uses a method known as thermopenetration, or diathermy, a high-frequency process which causes heat to reach deep into the tissue. To counteract dermatitis, in addition to the usual leather or aluminum filter, cracked ice between two layers of gauze is applied over the skin, or the surface is moistened with water and fanned to promote evaporation, thereby cooling it. De Keating-Hart asserts that the thermopenetration increases the deep action of the rays and that chilling the skin will prevent dermatitis, even though the treatments are frequent and the dose massive.

It is a well-known fact that roentgenologists are hampered in treating inoperable or postoperative malignant conditions, because they dare not apply massive doses frequently on account of the danger of a severe burn, which shows little tendency to heal, and the long interval between treatments allows the cancer to gain headway. Indeed, there is evidence to show that malignant growths have been stimulated and have grown rapidly after the application of the ray. The probable reason for this is that a stimulating rather than a killing dose was given. The merit of Hart's method is that killing doses may be given without burning the skin and the efficiency increased by deep heating of the tissue. Hart has presented evidence to show that probably his premise is correct. This method is also being tested in Philadelphia and New York, and the work thus far seems to verify Hart's contention. The method, of course, does not apply to skin diseases in which a superficial stimulating effect is desired, but only in deep lesions for which the *x*-ray is applicable. Thermoradiotherapy may be employed to increase the efficiency of desiccation and fulguration in the treatment of cancer.

1809 Chestnut Street.

ABSTRACT OF DISCUSSION

DR. GEORGE E. PFAHLER, Philadelphia: Fulguration, as Dr. Clark has called attention to it and as described by de Keating-Hart, of Paris, is never used to destroy tissue. If the profession will get that one fact clear we shall have much less confusion in our literature. Some writers now speak of "fulguration" when they really mean "desiccation." Desiccation as originated by Dr. Clark is a dry process and should be, in my opinion, confined to the destruction of small lesions. Thermopenetration, on the other hand, is a cooking process, a coagulation process and can be used in the destruction of large growths, providing the destruction between the two poles will not destroy other important organs in line, because by thermopenetration one destroys everything between the two poles, when used for destructive purposes. Thermoradiotherapy, I feel, will have to be used with a certain amount of conservatism because the application of ice by no means insures safety from burning of the surface and of the skin. The heating of the tissue by the high-frequency current preceding the application of the rays will increase its effect, but it will likewise increase the surface effect. I believe that the ice as applied by Dr. de Keating-Hart is not sufficient protection and that there is great danger.

DR. W. BENHAM SNOW, New York: I wish to ask Dr. Pfahler if he would modify his statement concerning thermal penetration burning everything between the electrodes. It is only when much current is employed that this occurs. Otherwise the current is employed to heat the intervening tissues and thereby induce locally an active hyperemia. Doyen applies a large metal electrode to a remote surface and a small one to tissue which he would destroy. We place large electrodes on opposite surfaces and pass enough current through to produce an active hyperemia in the interval. A demonstration is made of the profound effect of cooking a piece of meat by passing the high-frequency current through it. Applied to the body the accelerated circulation allows much heat to pass through without danger to the tissues.

We should not leave the impression that thermal penetration is necessarily a destructive process. Dr. Clark has given a most scientific and well-defined technic for the use of these methods. Those who understand the principles could follow them and obtain the same results. It is a destructive process and when proper judgment is exercised as to the depth and extent of the effect produced, it is a process which removes superficial abnormalities and growths in the most effective and practical manner. Oscillatory desiccation as described by Dr.

Clark differs from the method employed by those who are reporting numerous cases of papilloma treated with the hot spark from high-frequency coils which they term "fulguration." They are not using the desiccation method as described by Dr. Clark. That method should be called *destructive* fulguration, in contradistinction to the method of de Keating-Hart which was demonstrated in this country last winter, and the results of which are being carefully investigated in New York. Dr. Clark produces a drying effect which differs from the other method. His method requires a more precise technic, with more skilful adjustment of apparatus and it is generally more successful.

For destroying malignant growths thoroughness is imperative, otherwise the growth is stimulated and promptly recurs. It should therefore be absolutely destroyed at the first application.

DR. W. H. SCHMIDT, Atlantic City, N. J.: I find that in those conditions in which I have used desiccation, especially in surface growths, or any accessible growths, the effect has been very good and the cosmetic result following the removal of these growths as near perfect as it was possible to obtain. It has also been my pleasure to follow several bladder cases in which the desiccation method has been employed. I think this phase of the subject has opened up a wonderful field because the subject of papilloma of the bladder is a very serious one. The fact that by means of this method you can destroy papilloma without the necessity of giving the patient a general anesthetic (and, as a rule, the patient who has had a papilloma of the bladder for any length of time is pretty weak) appeals to me as its strongest point. Furthermore, papilloma of the bladder has a marked tendency to recur and by the use of this method in case the papilloma does recur in a certain length of time it is a very simple matter to go into the bladder again with the cystoscope and destroy the recurrence. It will not necessitate a second surgical operation.

DR. C. L. GRABER, Cleveland: Has Dr. Clark ever used a local anesthetic, such as ethyl chlorid, before using this method in the destruction of warts and like growths? Also, what experience has he had in the use of the *x*-ray in palmar dermatitis and what result has he obtained?

DR. WILLIAM L. CLARK, Philadelphia: By application to a given area of very mild sparks preliminary to desiccation, the part becomes blanched and partial anesthesia ensues, usually sufficient to render the treatment bearable. In supersensitive individuals, local infiltration is to be recommended, except in cases of malignancy. I prefer a 1 per cent. solution of quinin and urea hydrochlorid to cocain, because it seems to be quite as effective, is non-toxic, less expensive and more prolonged in action. In ulcerated surfaces, the topical application of a 20 per cent. solution of quinin and urea is quite satisfactory. In two cases of extensive *x*-ray keratosis in which extreme sensitiveness existed, nitrous oxid gas was administered. My definition of the uses and limitations of desiccation is based on nearly 4,000 lesions treated personally by this method.

I quite agree with Dr. Pfahler that it is too early to assert that cold applied to the skin will give absolute immunity from *x*-ray dermatitis, but as there appears to be some tangible evidence that the *x*-ray may be applied with greater safety and efficiency by this method than by those now in use, co-workers should not hesitate cautiously to put it to the test. De Keating-Hart's observation that *x*-ray workers who possessed habitually cold hands had milder *x*-ray lesions than those with warm hands, and his personal statement to me of his belief in thermoradiotherapy based on experience with actual cases, led me to give it a trial. The fact seems worthy of note that during the past five months I have been able by this method to administer tremendous doses of the *x*-ray without burning or even tanning of the skin. The failure of massive *x*-ray dosage to produce burns may not be due to the temperature of the skin *per se*, but possibly to ischemia due to the application of cold, and conversely the greater efficiency of the ray may be due to the resulting hyperemia after the application of heat, these effects may possibly be brought about by some other means. This is an open question which will doubtless be determined later.

BACILLARY DYSENTERY

A CONTRIBUTION TO THE STUDY OF THE EPIDEMIOLOGY*

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Under the direction of Dr. Samuel G. Dixon, commissioner of health of Pennsylvania, I have had an opportunity to study the infections by members of the typhocolon group, and with his permission the results are now presented as a preliminary report.

The bacilli classified in this group of microorganisms possess such great differences in pathogenic characteristics and so many points of similarity in morphology and biology that infections by members of the group often present difficulties in establishing an individual clinical as well as an epidemiologic diagnosis.

It is especially desirable in this paper to discuss, in their epidemiologic relations, infections by members of the group giving rise to dysentery as the chief clinical characteristic, and the relation of outbreaks of dysentery to typhoid fever.

The work of Shiga and all who have since studied the dysentery bacilli has led to the etiologic division of infections by these microorganisms into two forms, bacillary and amebic dysentery; there is reason to add to this classification the form caused by the presence in the intestinal tract of the *Balantidium coli*, namely, balantidic dysentery. The last two forms will not be discussed in this paper.

In Pennsylvania, for the purpose of supervision and control, all forms are required by law to be reported to the health authorities under the term "epidemic dysentery." In only seven states and territories, California, Louisiana, New Jersey, Pennsylvania, Texas, Hawaii and Porto Rico, has an attempt been made to control the spread of this disease. The actual reporting and supervision of cases of dysentery except of the amebic type, however, so far as I have received information, is not practiced in any health jurisdiction of America. Under the jurisdiction of Hawaii and under the direction of the federal government in the Panama Canal Zone and the Philippine Islands, amebic dysentery is required to be reported and placed under certain quarantine regulations. In Pennsylvania, since the organization of the State Department of Health in 1905, there have been nine epidemics which were sufficiently large to investigate because the attention of the department was directed to them by reason of the mortality or of the association with typhoid fever, or because of the relation of sewage from the affected district to the public waters of the commonwealth.

Studies of outbreaks of proved water-borne disease in Pennsylvania have demonstrated the prevalence of acute bacillary dysentery and in many instances its relation to typhoid fever.

HISTORICAL

In Johnsonburg, Elk County, with a population of 4,200, during August, 1905, there was an epidemic of dysentery, the extent of which could not be learned (but

* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-Third Annual Session, held at Atlantic City, June, 1912.

* Because of lack of space, this article is abbreviated in THE JOURNAL by the omission of the charts. The complete article appears in the Transactions of the Section and in the author's reprints.

which was admitted to be very large), about ten days prior to the development of twenty-nine cases of typhoid fever as diagnosed clinically. There was no mortality during the outbreak of dysentery, but five of the typhoid fever patients died, a mortality of 17.2 per cent. The local diagnosis was "dysentery," but apparently it had no significance to the local health authorities. No bacteriologic analyses were made except that the water-supply was shown to be polluted with sewage organisms, the source being evidently from a lumber camp located on the banks of one of the streams supplying the borough with water and containing twenty-two men who had suffered with "bowel complaint."

In Warren, Warren County, with a population of about 10,000 at the time, an epidemic of "intestinal disorder" which is shown to have been water-borne, occurred during April, 1906, at which time 406 cases developed, not violent enough in character to require medical attendance. During the same year, between the dates of December 7 and 12, there occurred an estimated number of about 1,800, 600 persons being taken ill during one day, with the local diagnosis of "gastro-enteritis resembling mild ptomain or arsenical poisoning," the general features of which were sudden severe cramps in the abdomen followed by diarrhea, vomiting and great weakness. A few patients had high temperature followed by syncope. The excreta were watery and brownish. The duration of the illness was from three to six hours in the great majority of cases, followed by recovery. Others were more severely ill for thirty-six hours or longer. The laboratory examinations showed the water to be polluted with sewage organisms. The examination of the feces showed the prevailing microorganism to be a Gram-negative rod, apparently a bacterium, with characteristics which were common to *Bacillus aerogenes capsulatus* and hog cholera. It was negative to guinea-pigs. No organism suggestive of typhoid bacillus or cholera vibrio was discovered in water or feces. This outbreak was not followed by any known cases of typhoid fever.

In Kittanning, Armstrong County, with a population of 4,500, there occurred in January, 1907, a sudden and wide-spread outbreak of gastro-intestinal disorder which varied in severity from cases of simple diarrhea to cases presenting the symptom-complex of dysentery. It was shown that transient visitors to the town were particularly susceptible. The general features were sudden onset, accompanied by vomiting, purging and profound prostration. Other cases simulated influenza of the so-called abdominal type. In a certain number of cases there was severe rigor followed by temperature of the remittent type, general muscular pains, bronchitis and marked malaise. Many of the cases simulated typhoid fever, but as they improved on or about the tenth day the diagnosis of typhoid fever was not made. The outbreak followed immediately after certain changes in the public water-supply during the first week in December, and December 26, the first one of fifty-one cases of typhoid fever was reported to the local board of health.

At Mount Gretna, Lebanon County, in a military camp, during July, 1909, there was an outbreak of dysentery which was followed within one or two weeks by an unstated number of cases of typhoid fever. It was shown to be a water-borne infection. There was no bacteriologic analysis.

In that portion of Allegheny County in which 18,000 persons are supplied with water by the Ohio Valley Water Company there occurred during January, 1909, a dysenterial disease, the local diagnosis of which was "gastro-enteritis." The prevailing symptoms were abdominal pains followed by vomiting, diarrhea, lassitude and copious and watery excreta, lasting for a period of from three to seven days. An actual census of the cases showed that 2,887 persons, or nearly 16 per cent. of the total population, were ill. Analysis of the public water-supply showed the presence of sewage organisms, and three weeks from the date of onset of the first cases of dysentery there developed sixty-three cases of typhoid fever. The mortality was six, or about 10 per cent.

In Erie, Erie County, with a population of 66,525, there occurred during December, 1910, and January, 1911, two outbreaks, the local name for which was "winter cholera." These followed unusually severe northeast gales on Lake Erie, from which the water for the city supply is taken. The public supply became unusually turbid shortly after December 1 and almost immediately afterward there was a marked outbreak of acute enteritis appearing in all parts of the city, which by many physicians was called "intestinal grip." Clinically the disease, according to Dr. J. W. Wright, county medical inspector for the State Department of Health, and city health officer, was as follows: sudden onset with slight constitutional disturbance but characterized by severe abdominal pain, and followed in a few hours by frequent, profuse, watery stools; the discharges were offensive and accompanied by much flatus.

In the more severe form there was a moderate rise in temperature, all of the symptoms being more aggravated, and in some instances accompanied by intestinal hemorrhages. In mild cases the patients recovered within two or three days but cases of the more severe form lasted from ten days to two weeks and frequently were marked by relapse before complete recovery. Cases presenting these symptoms were first observed about December 10, the acme of the outbreak lasting about three days, on or about December 15. Various estimates have been made as to the total number of cases and it is generally agreed that there were probably 20,000 cases in this one outbreak. Typhoid fever, which had been practically endemic in Erie, immediately increased in the number of reported cases, the height of the outbreak occurring December 25, as indicated by the dates of onset. The number continued relatively great up to Jan. 10, 1911. Following the same storm history and tidal history of the lake waters, during the early part of January there occurred a second outbreak of dysentery of the same type, during which, however, a lesser number, probably 10,000 persons, became ill. Following this outbreak of dysentery there occurred another outbreak of typhoid fever, the height reaching its greatest point about February 1, and slowly subsiding until measures were instituted by the State Department of Health under the direction of Dr. Samuel G. Dixon.

To recapitulate: There occurred in Erie during December, 1910, and January, 1911, an outbreak of dysentery with a conservative estimated number of 30,000 cases, each outbreak being followed within a period of ten days, as indicated by the height of the curve of onsets of those cases studied, by a total of 886 cases of typhoid fever and 126 deaths, or a mortality of 14 per cent. The percentage of deaths from the dysentery infection cannot be properly estimated.

In Chester, Delaware County, with a population of 38,537, there occurred during January, 1910, an outbreak of dysentery which was diagnosed locally as being "winter cholera" and was traced to the water-supply of

a manufacturing company employing 7,000 wage-earners. The total number of cases has not been correctly estimated but it was shown that the absentees between January 3 and January 25, because of dysentery, ranged from eighty-eight to 265 in a single day. No increase above the normal typhoid fever rate for Chester followed this outbreak. There were no deaths.

Engineers from the State Department of Health discovered and immediately abated the source of the water pollution; a field laboratory was established by direction of the state commissioner of health and thirty-three suspected cultures were isolated from stools of the patients; twenty-nine proved to be *B. coli communis*, various forms of cocci and a few *B. aerogenes*. One of the remaining four was *B. cunuculicida*, closely related to the swine plague group. The other three were found to belong to the colon bacillus group and hog cholera group and most closely resembled *B. poelsii* but differed somewhat in growth on milk and potato. They differed from the hog cholera bacillus in their action on milk and in their indol production, which was, however, very slight. They were called paracolon bacilli because of the sugar reaction and action on milk and slight indol reaction.

The three cultures were isolated from two stools of the sick, one case being well advanced and the other just past the height of the infection. The other cultures did not show any of these colonies, but one acute case, although showing none of these organisms in the stool, gave a positive serum reaction. The biologic characteristics noted are found in several of the meat-poisoning group but do not correspond exactly with any of the described forms. The bacterium was isolated from one case just past the height of the condition and one convalescent. It was agglutinated by the serum of one early case but was not agglutinated by the serum of the patients from whose stools it had been isolated. There is no reason to believe that the clinical course of the case giving the agglutinating serum is any different from the courses assumed by the other cases. Other samples of water were incubated and after thirty-six hours were fished for colonies resembling *B. dysenteriæ*, the paracolon bacillus and *Vibrio choleræ*. None were found. Larger numbers of *B. coli*, however, were found in the sediment of the drinking-supply as well as in the sediment of the raw river-supply. The organism recovered corresponds biologically to the bacillus of Poehl, recovered from patients in an epidemic of dysentery in Rotterdam.

During February of 1912, I was assigned to investigate the reported cases of "Asiatic cholera" in Iselin, Indiana County, which is an unorganized community with a population of 2,700. The outbreak was proved to be a water-borne infection, the spring source of which was polluted directly by the excrement of hogs and chickens and a more remote pollution by human excrement. The early cases were marked by an abrupt onset and propulsive, watery evacuation (intestinal hemorrhage occurring in one), with vomiting and abdominal pain. There were a few cases with elevated temperature, the major number having subnormal temperature with marked prostration. The first of these patients was seen on or about February 1, and as only a fraction of the total population obtained water from the infected source and as all who sickened were Polish or Hungarian in nativity, it was not proved, but was apparent, that the earliest cases were of a dysenterial type. Later, after February 10 or 11, fifty-three cases, in part typical cases of typhoid fever, in part simulating typhoid, developed.

During September of 1911, I was assigned to investigate an outbreak of dysentery in Bethlehem, Lehigh County, which has a population of 12,837. Acting under the authority of the act of assembly dated May 14, 1909, the physicians were required to report all cases under their care. This is the first time in Pennsylvania that dysentery has actually been reported during the course of an epidemic or otherwise.

A total of 408 cases was so reported and studied, though there was indisputable evidence that upward of 1,800 cases existed in the borough between the dates of August 1 and September 6. This outbreak of bacillary dysentery was followed by a total of eighty-eight cases of typhoid fever, the maximum number of cases being reported three weeks from the date of subsidence of the dysentery outbreak. The clinical features of the dysentery were abruptness of onset and the great variation in the course and character of the symptoms, as has been noted in certain previous outbreaks. The source of the infection, except to certain members of the local board of health, was not apparent to the residents of Bethlehem, and many persons ascribed it to temperature and other meteorologic changes.

Bethlehem's water-supply is obtained from springs, and the residents boast of having the second oldest water-works in the United States. The geologic formation is almost entirely limestone and the sewage in this very old community has been for years directed into crevices of the limestone formation. The spring is at the base of the hill and unquestionably receives some portion of the 100,000 gallons of water, plus the sewage which passes into these crevices during every day of the year.

The analysis of the water showed, in addition to the *B. coli communis*, the presence of the *B. alkaligenes*, *B. suicidus*, the *B. acidi lactici* and a form corresponding to the strain of the dysentery type described by Rosen. The blood of seven known cases of dysentery infection agglutinated the last-named microorganism in dilutions of 1:50, which was the only dilution employed, while reactions with the *B. poelsii*, paracolon bacillus, *B. dysenteriæ* (Shiga) and *B. enteritidis*, (bacillus of Gaertner) were negative when studied in the same dilutions. Blood from the same patients was studied in relation to *B. typhosus* and *B. paratyphosus* A and B, with negative results. The same organism was recovered later from the feces of two of the patients and corresponded in all of its biologic features with the microorganism which was recovered from the water-supply of the borough.

TYPES AND PATHOGENICITY OF ORGANISMS

There is no question as to the relation between organisms of the dysentery group and the diseases classified as acute dysentery. It is obvious, from the work of many investigators, that there are many types of dysentery bacilli and that each type may be the factor in an outbreak or apparently there may be mixed types, as noted by Gay, Duval, Hastings, Shiga, Park, Hiss, Russell, Whitmore and many others. The variations, both in the type of organism and in the clinical phenomena, have until recently made the diagnosis confusing. Recently it has been possible to classify the many strains belonging to this group, which have been isolated and carefully studied, into three distinct varieties of types. The type most frequently found in severe epidemics and the one which probably contributes to the highest mor-

tality is known as Type 1 and includes the Shiga organism and all strains which have similar biochemical properties. Types 2 and 3, as a rule, cause a much milder clinical course; both are biochemically more nearly like strains of the colon group than are members of Type 1.

The bacilli of Type 1 do not produce indol and do not ferment mannite, maltose or saccharose; they produce agglutinins specific for strains of their own type and but little for members of other types. Type 2 ferments mannite with the production of acid reaction but does not split maltose or saccharose in peptone solution or agar; it produces indol and also produces agglutinins specific for strains of its own type. Type 3 is nearest the colon group since it produces indol and actively ferments mannite and maltose but acts feebly on saccharose.

The organism isolated from feces in the Warren epidemic would seem to conform to Type 3 though the identification by cultural and other methods was not carried out in detail. Clinically, the course of the disease in all cases introduced by this microorganism was mild.

The type isolated from feces in the Chester epidemic would also seem to be identified with strains of Type 3 since its characteristics resembled closely the bacillus isolated by Poehl, which can properly be grouped as a paracolon organism. The organism recovered from both feces and water during the Bethlehem epidemic corresponds to Type 2, however, as shown by its biologic characteristics; indol was but feebly and inconstantly produced; dextrose and mannite were fermented with the production of an acid reaction; saccharose was not fermented and there was no gas production. The serums of patients from whom it was isolated and the serums of other patients suffering with the same clinical course agglutinated this organism in dilutions of 1:50 before the end of one hour and failed to agglutinate the *B. dysenteriæ* (Shiga) and the *B. poelsii* (isolated from feces in the Chester epidemic). Studies with immune serums of known strains were not made.

Park suggests restricting the name "dysentery" to infections by the Shiga type and "paradysentery" to all infections by forms which fall into the other two types, giving as reasons their greater similarity to the colon group, as indicated in indol production, greater range of carbohydrate activity, and also the fact that they give rise to a much milder clinical type of reaction. Were this suggestion followed it would be less confusing for the practical purposes of both study and control. The pathogenicity of the types here reported would, then, correspond to the paradysentery type as the course of cases of the major number of epidemics studied was mild, and as a result the mortality was very low; in those instances in which an organism was isolated and identified, it was shown to belong to Types 2 and 3.

SEASON AND AGE

Infections by Type 1 are said to prevail from early summer (June or July) to the end of October and practically to disappear during the winter months. In contrast, the epidemics studied in Pennsylvania show the following occurrence:

Warren, Warren County	April
Kittanning, Armstrong County	January
Ohio Valley	January
Erie, Erie County	December and January
Chester, Delaware County	January
Iselin, Indiana County	February

The Johnsonburg, Elk County, epidemic, however, occurred during August; the Mount Gretna, Lebanon County, epidemic during July, and the Bethlehem, Northampton County, epidemic during September. It was possible to study the relation of the temperature range and the daily precipitation in relation to the dates of onset of the 408 cases in Bethlehem. Since two-thirds of these water-borne epidemics occurred during the winter or early spring months and a total of nine epidemics occurred during seven different months of the year, it would seem that there is no particular season for its appearance but that an outbreak of this disease depends on the association of an unprotected water-supply and the possibilities of sewage pollution; among other evident factors controlling the latter an unusual precipitation is of some importance. There is, however, some reason to believe that infections by members of Type 1 are more common during the summer months. It has been stated that young persons, particularly those between 20 and 30, are unusually susceptible. For this reason a tabulation of the cases occurring in Bethlehem with reference to age periods is introduced. It will be noted that practically no age period from the first to the seventieth year was spared and that while there is an apparent partial immunity beginning with the sixtieth year, it should be recalled that the proportional number of persons over this age is less in number than for younger age periods.

Age Period.	No. of Cases.
0 to 4	60
5 to 9	29
10 to 14	20
15 to 19	31
20 to 24	47
25 to 29	27
30 to 34	29
35 to 39	20
40 to 44	31
45 to 49	15
50 to 54	21
55 to 59	22
60 to 64	18
65 to 69	12
70 and over	19
Information refused	7
	408
Males	193
Females	215
	408

MORTALITY

As has been shown by the study of infections by Type 1 there is a very wide range of mortality; that given by Shiga for Japan is from 22 to 26 per cent.; by Kruse for Germany, 10 per cent.; by Rosenthal for Russia, 12 to 17 per cent.; and Manson states that while Europeans in India suffer a mortality of 3 to 22 per cent., the native loss is 36 to 40 per cent. Park, in studying infections by mixed types in and about New York City, found that there was a mortality of 6 per cent; about 50 per cent. of the cases studied by him showed the *B. dysenteriæ* (Shiga-Kruse) in the feces. The clinical course was severe and the mortality high as contrasted with the other cases studied. In the feces of the other 50 per cent. various strains of the other two types were found. No age periods are mentioned by him. The mortality of epidemic dysentery in Pennsylvania has not been studied except in the instance of Bethlehem, where but four cases, or less than 0.4 per cent., resulted fatally. It should again be recalled that the Bethlehem epidemic was in all probability caused by a strain belonging to Type 2.

The average annual death-rate in the registration area of America for the years 1906 to 1910, inclusive,

was 595,734. Of these 496 are credited to cholera nostras, 2,947 to dysentery, 35,226 to diarrhea and enteritis under 2 years of age and 7,110 to diarrhea and enteritis over 2 years of age. From these figures it is obviously impossible to estimate the number of deaths from acute bacillary dysentery since there are included under the four titles cases of bacillary dysentery diagnosed as "summer diarrhea," acute colitis, acute enteritis, the various chronic inflammatory conditions of the gastro-intestinal mucosa and also acute and chronic conditions not bacillary in origin. These will be referred to in a separate contribution.

Unquestionably epidemics differ widely in severity, depending on the type of microorganism, its casual relation to other pathogenic forms, and, to some extent, the degree of sewage pollution.

EPIDEMIOLOGY

While cultural characteristics, agglutination reactions and bacteriologic phenomena make it possible to distinguish sharply between types, the process resulting from the infection by any type is a pathologic one and becomes the problem of the epidemiologist. The most important source of infection, as in typhoid fever, is the patient himself, and the care of the dejecta constitutes the most important single item of sanitation.

The disease is endemic in a large portion of the world and each case may be the cause of a widely distributed outbreak. That at Warren followed an infection of the borough water-supply by sewage from a lumber camp where cases of "bowel complaint" existed and the sewage was deposited on the banks of the stream. At Erie and Bethlehem the infection was unquestionably caused by microorganisms from the sewage of the residents of each city. The occurrence of cases secondary to large numbers of sporadic cases cannot be estimated.

There is no doubt that many persons are infected by contaminated food, particularly meat, milk and ice-cream; contact infection, especially in epidemics, occurs through the medium of infected clothing, infected food and the ubiquitous fly. In addition, the organisms belonging to this group have been found in the feces of healthy persons and in the intestinal mucosa of individuals who had no other evidence of dysentery; the possibility of infection by carriers is so demonstrated.

RELATION TO TYPHOID FEVER

The relation of bacillary dysentery to typhoid fever depends entirely on the casual association of the two forms of microorganisms in the sewage-polluted source of infection.

The simultaneous appearance, however, of a number of cases or the presence of a spontaneous epidemic of acute dysentery should be the indication for immediate investigation and abatement of the source of infection. If typhoid bacilli should be associated it will be the means of lessening the number of cases. Those already infected will show an onset some two weeks after the beginning of the subsidence of the dysentery outbreak.

The average period between beginning of subsidence of reported cases of bacillary dysentery and the onsets of the typhoid fever cases is fourteen days, the least recorded period being ten days, the greatest, twenty-one days. In the nine epidemics of dysentery studied there is a record of at least 55,000 cases of acute bacillary dysentery in a total population of 152,000; that is, 36 per cent of the population suffered from that one preventable disease. In five instances, or in 55 per cent., notable increases in the number of cases of typhoid fever developed, 1,320 having occufred immediately after. The mortality for the latter was 14.6 per cent.

CONCLUSIONS

The following conclusions seem to be warranted by this study:

1. Bacillary dysentery should always be a reportable disease.
2. Sufficient power should be given to the health authorities to investigate and abate any suspected source.
3. Less confusion to the general practitioner results from a nomenclature broad enough to include all types of the causative organism.
4. While there is some warrant for the terms "dysentery" and "paradysentery," the more general one of "bacillary dysentery," in so far as preventive medicine is concerned, simplifies the problem both of diagnosis and of sanitary supervision.
5. There is apparently a notable lack of recognition of the etiology and probably of the pathology of cases infected by members of the dysentery group, resulting in a longer continuance of the infecting source and a higher mortality; this is evidenced in the varied diagnoses such as "diarrhea," "winter cholera," "intestinal grip," "grip," "gastric fever," "intestinal disorder" and many others.
6. Dependent on the casual association of the *B. typhosus*, outbreaks of bacillary dysentery may be followed within ten to twenty-one days by a marked increase in the number of typhoid fever cases. This occurred in five out of nine instances in Pennsylvania and may serve as a warning of the presence of the more serious infection; the immediate abatement of the sources would probably decrease the morbidity and mortality due to typhoid fever.
7. When it is recalled that the major number of cases of bacillary dysentery are mild in form, being caused by Types 2 and 3, that sporadic cases probably exceed the total numbers occurring in epidemics; that sporadic cases probably account for the large proportion of deaths under 2 years of age accounted for statistically as cholera nostras, dysentery and diarrhea and enteritis; that the disease is reportable in only seven states and territories; and that in the latter the law is not enforced, the only conclusion is that we have no definite collective information about the morbidity and mortality of the infection which properly should be called bacillary dysentery.

ABSTRACT OF DISCUSSION

DR. C. HAMPSON JONES, Baltimore: In our municipal laboratory we examine for the *Bacillus typhosus*, as well as for the paratyphoids. There is a regular process of examination of every specimen that comes in.

DR. RICHARD COLE NEWTON, Montclair, N. J.: I could not help but take particular heed to what Dr. Hunt said about Bethlehem, as Bethlehem has been infecting the city of Trenton. We have been getting 100 cases there at a time on the Delaware River, and it is supposed that they all start from Bethlehem.

DR. A. PARKER HITCHENS, Glenolden, Pa.: Some time ago I had occasion to look up the literature on paratyphoid fever. I was rather astonished to learn how very prevalent it is. Attention has been called to this fact a number of times but general interest has not yet been aroused. Wells stated that about 10 per cent of the cases in Chicago diagnosed as typhoid fever are actually paratyphoid. Kolle makes the same estimate for Germany, while Boycott found in London from 3 to 3.5 per cent. An epidemic of paratyphoid infection in this country was reported by Lyons in the *New Orleans Medical Journal*

about, I think, in 1910. The bacillus responsible for the epidemic was of the A type. The usual impression is that paratyphoid B infections are much more commonly diagnosed as typhoid fever than are infections by the paratyphoid A bacillus. Lyons believes that paratyphoid A is the more frequent offender, in New Orleans, at least.

He was the first to suggest the use of a mixed typhoid vaccine. If paratyphoid infection is anything like so prevalent as has been stated—10 per cent. of the conditions diagnosed as typhoid fever—even though the mortality-rate be not high, not more than 1, or 2, or 3 per cent. ordinarily, the economic loss due to the illness and enforced idleness is so great that there would seem to be no reason why we should not add the paratyphoids to the regular typhoid vaccine, as mentioned by Dr. Russell.

A short time ago I started an investigation to find out what bacteria are concerned in the infection in typhoid fever after ulceration has developed. I feel that the treatment of typhoid fever by a single vaccine, that is, a vaccine composed of typhoid bacilli alone, is not adequate at this stage. Once in a while therapeutic inoculation with typhoid vaccine is followed by remarkably brilliant results. We feel that at such times, in such cases, the infection is a pure typhoid infection. In other cases the typhoid vaccine seems to do no good at all; and these things happen so frequently that nobody can predict a favorable result. After ulcerations have developed, that is, after the second or third week, when typhoid patients usually reach the hospitals, the disease is not, bacteriologically speaking, a typhoid infection, but is a mixed infection and if one could prepare a suitable mixed vaccine, positive results from therapeutic inoculation might be more frequent.

DR. C. J. HUNT, Harrisburg, Pa.: I understand that in the laboratory in Baltimore the agglutination reaction has been worked out in every case of typhoid fever with *Bacillus typhosus* and all other group members. I should like to be informed whether I am correct in that understanding.

Under the direction of Dr. Dixon I made a tabulated list of the cases of typhoid fever occurring in the Lehigh Valley District, in order that they might know from where some of the typhoid organisms originated which were found in the Delaware. There is no doubt that much sewage escaped disinfection. The German statistics showing a mortality of 10 per cent. are probably more nearly correct, as the details worked out in establishing a diagnosis were studied more carefully. One point which seems confusing in the reports of German investigators is the apparent failure to differentiate between *Bacillus typhosus* B and the Gaertner bacillus. There is no sharp differentiation between paratyphosus B fever and meat-poisoning cases, from which the Gaertner bacillus has been isolated. It is my hope to make a report of these infections later.

The frequent occurrence of paratyphosus A infection has already been noted and is a matter of comment among those working in this field, particularly as to the differentiation between *Bacillus paratyphosus* A and *Bacillus typhosus*. There is apparently a group agglutination for these two microorganisms, a factor which can be determined only by observations on the titer limit in every case. My conclusions in the Coatesville epidemic were that we were dealing essentially with A infection, though I did not advance it as a portion of my paper. Had more extended observations been made there would be some justification for making a definite statement with reference to it. In South Bethlehem during the epidemic of *Bacillus typhosus* infection, I had an opportunity, through the treasurer of the Bethlehem Steel Works, acting for Mr. Schwab, to immunize about 10,000 employees. The result of the first day's work in that borough by ten census-takers showed that the outbreak was already abated and the enforced vaccination would have been scarcely justifiable. The use of vaccine in mixed infection is one I hope to work out in Pennsylvania. I shall, I think, have an opportunity in connection with further studies on this group of microorganisms. The latter will include studies on the titer limit, saturation and bactericidal properties.

THE ERADICATION OF THE SOCIAL DISEASES IN LARGE CITIES *

ROBERT N. WILLSON, M.D.
PHILADELPHIA

No more time need be spent in discussing the possibility or the impossibility of eradicating the contagious social diseases, syphilis and gonococcus infection than in relating their ubiquity or their influence on all classes of society. Suffice it to say that rich and poor, intelligent and stupid, moral, immoral and unmoral, innocent and guilty, are paying the price of centuries of an ignorant, ill-considered false modesty in terms of morbidity and mortality that probably surpass the sum of all other contagious influences combined. If a computation were made of the acute venereal infections, their complications and active sequelæ, the brain and cord lesions, the insanities and idiocies, the inherited and acquired deformities and destructive lesions, the partially and totally blind, the abortions and stillbirths, the operations on the abdomens of innocent as well as of guilty women, the male and female sterility, the army of infant deaths, the apoplexies, the lowered vitalities of those not manifestly diseased, the moral bias and weakness, and the degeneracies of mind and heart directly or indirectly traceable to the so-called social diseases, there would result a seriousness and perhaps a tendency to reflection throughout humankind that would forecast at least a profound upheaval. The physical results form only the beginning of the influence of the social diseases on the world at large. The broken homes, the divorces, the desertions, the suicides, the incapacity for work, the wages lost, the hospitals and asylums rendered necessary, the cost of treatment, form only a few of the points at which the diseases of immorality impinge on both the innocent and the guilty portions of society. It seems incredible that up to the present syphilis and gonococcus infection are, officially speaking, non-existent, and that as far as the national and to a great extent the municipal authorities are concerned are deserving only of contempt or complete disregard. In the Army and the Navy alone are they officially recognized by the national government as diseases. The horde of immigrants that enter this country every year is examined for every infection save these two. The accurate and actual cause is placed on the death-certificate, the country over, in every instance save of these two diseases.

There is before us, therefore, a task to which society at large, and especially the medical portion of it, must straightway address itself. The fact that the problem ramifies in and out through animal passion and private and public immorality renders it more difficult, to be sure, but none the less insistent, and none the less finally soluble. Small-pox once appeared hopelessly and permanently beyond control; tuberculosis was only recently regarded with complacent resignation. The social diseases await the same sharp awakening of a people that have been too long asleep, and the application of measures that are within our grasp in spite of all pessimism to the contrary.

AN EDUCATED PUBLIC

In the first place, and absolutely essential to the success of any attempt at controlling influences so insidious

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as the diseases that are fostered mainly by and through immorality, is the sane, quiet, complete sex-education of the American people. Granted not only a knowledge but a realization, a thorough appreciation of the facts, and radical action will follow, on the part of womankind at least, and eventually from the side of the traditionally less virtuous male portion of society. On a health basis only, in my opinion, is the social evil a soluble problem. In a competent knowledge of the existing conditions of the public health lies the first and most radical advance toward society's moral and physical cure. Beginning with the teaching of normal sex hygiene to little children at the mother's knee, through the medium of the flowers, and soon through the lower and then the higher forms of animal life — always emphasizing the sacred duty and privilege of reproducing one's kind, and of equipping the body and mind far in advance for this duty — beginning with this primitive, but essential ground-teaching, we can advance through the public and private school to the later sociologic training of the adult citizen. Not only trained teachers are needed, but intelligently willing parents. We are at least one generation distant from the apparent realization of society's physical and moral cure.

COMPETENT AND WILLING OFFICIALS

An intelligent, open-eyed people will elect to positions of responsibility and trust only such men and women as are committed to the moral and physical health of the public. One of the new requirements of eligibility for mayor of a city will be a candidate's thorough acquaintance with the bearing of prostitution on the physical health of the community. He will be required to make in advance an outspoken statement of his attitude toward a continued tolerance of the spread of the social diseases through publicly condoned immorality,— a tolerance that is rendered possible only by the violation of his oath of office in ignoring and failing to enforce existing laws. As a rule these are competent to meet the needs and to insure the protection of the public. Clandestine prostitution furnishes a problem even far more serious than that of public immorality and one that does not come within the responsibility of a city's chief executive. This fact relieves him in no measure from a full and far-reaching responsibility for every public brothel that remains open and inviting to the boys and men contrary to law, or for every case of venereal disease carried from such a house into clean homes to infect innocent, ignorant women and children. In my own as in almost every other city the brothels have long stood open wide. In them a large percentage of our boys and men contract and transmit one or both of the two contagious social diseases. This is in the face of the fact that mayor after mayor has sworn to uphold laws already on the statute-books, and only awaiting official willingness to enforce them.

WHAT CAN THE PUBLIC DO?

The active cooperation of the people with their chosen officials is the ideal method and will no doubt bring the speediest and most thorough result. The people and the officials are not both essential to the success of an intelligently conscientious endeavor. Either can awaken the other, if slumbering, to a sense of duty and inherent power. Either can accomplish much, if necessary, without the aid of the other. In certain of our American cities the immoral and diseased sections have been rendered temporarily clean through the efforts of one man or of the entire body of citizens, in the face of a reluctant mayor and an openly opposing department of police. In such an event the public may have to seek out the facts for itself. It should, if necessary, deliberately investigate its own improvident expenditure of public funds for the care of those physically incompetent through tolerated public immorality. It should not be called on, however, to assume the functions of the mayor and his subordinates; but in the delinquency of these officials it may and should take their functions over. The public officials are salaried to protect the public by the enforcement of law. On occasion the public is forced to work and to serve without pay. Publicly condoned prostitution means publicly condoned disease and a consequent civic burden in the form of taxes for the maintenance and care of the feeble-minded, epileptic, orphaned, crippled and paralyzed. It would almost seem that the medical portion of the public would feel it incumbent on itself to render these data easy for the people to obtain. It should encourage a full public understanding of the dependence of these conditions in large measure on immorality and consequent disease.

In default of action by their chosen officials the people should not repeat the mistake of placing unwilling men in places of power. The women of a community should demand also that the double standard of physical and moral health be distinctly condemned by the male sex, if marriage and child-bearing are to be continued by innocent, clean girls. Motherhood should not entail invalidism, the operating-table and an unsexing operation soon after the first child is born. What is more, womankind should see to it that the single standard is adhered to, at least by those men who desire to marry clean girls. No laws are needed for the purpose. Let the mother, or better still the marrying girl, offer her prospective husband a physician's certificate of her own freedom, as far as ascertainable, from transmissible disease, and demand the same from him. His answer will of itself go far toward assuring her of safety or danger. In this step the miracle is already well on its way toward accomplishment, the women and children are in sight of physical safety, and the babies far nearer an enjoyment of their right and title to be born alive and to live.

MEASURES TO BE AVOIDED

The public should also study and acquaint itself with the facts regarding measures that have invariably invited and just as invariably resulted in failure. These may be considered under three heads: (1) Indisposition, ignorance, inaction; (2) reglementation, including medical examination, and segregation; (3) vice commissions.

Inaction has been the order of the day for centuries, and has centered in male duplicity and willingness to tolerate feminine ignorance and even encourage blind over-confidence in the worthiness of the stronger and less temperate sex. Most cities owe their sorry moral and physical plight to the fact that they are contented in their corruption in spite of knowing that it is only a short step to civic revolution and to the security of a new and real health.

Reglementation, Medical Examination and Segregation have all been put to a thorough test in Europe and in certain sections of this country. In Germany, France, Austria and England, government commissions have reported not only on their inefficacy, but very positively with respect to their influence in increasing the spread of prostitution and the social diseases. No more ample, no more definite evidence

can be presented to an intelligent people than has been adduced on this point. Nothing further should be necessary by way of determining the action of a wide-awake nation. We should not require the stroke of a mallet on our collective figurative head. Neither should we encourage a further waste of time and money over methods and means that have once and again been tried and found wanting.

Vice Commissions.—I venture to suggest that these are at best a sorry attempt on the part of public officials, from the mayor of a city down, to shift a grave personal responsibility and duty on a long-suffering people. Two memorable vice commissions have made the necessary pioneer investigations and have blazed the way. The fact that they were necessary in their respective cities was a burning disgrace on the executive officers of those communities and on the male sex at large. None the less their work was well done, and their reports have startled all the world except the portions that are still asleep or that do not wish to be shaken out of ignorance and depravity. Cities differ very little with respect to their immoral and diseased sections. Invariably there is a close association between rotten politics and public prostitution. Without a thorough interdependence of these twin evils neither one could continue to exist, because the concealment and misrepresentation that are necessary to the life of the latter would become apparent to the clean portion of the public and action would be prompt and radical.

Every public prostitute and street-walker ought to be accurately known to the police officials. Her exit from a particular city is not a matter of difficulty when this end is desired. A definite notice that she is to cease plying her trade, with the realization that the notice requires attention and observance, is all that is necessary. Nor need she return until the authorities desire or permit her reappearance. When all cities take this matter in hand there will be none that will harbor an acknowledged public woman or house of ill fame, nor one that will permit the presence of soliciting men and women — usually foci of contagious disease — on its streets.

There are indeed difficult phases and perplexing features of the prostitution question, but the matter of a full knowledge of the number and identity of the public houses and of their inmates and of the street-walkers, and ridding the cities of all these, are not among those difficulties. An official suggestion that they are constitutes an insult to the intelligence of the people, and amounts to a self-conviction of unfitness for executive office. Moreover, we may rest assured that a vice commission, from to-day on, will from the time of its appointment until its dissolution meet with unnatural conditions in the city which it undertakes to investigate. My own city is at this instant heralding far and wide the fact that its vice commission, just appointed, is about to begin its labors and report on the condition of the town. Meanwhile during the three months since the first announcement that the mayor was waiting for a public demand for a vice commission all types of public prostitute, house inmate and street-walker, have been quietly and discreetly filtering out of Philadelphia into Atlantic City, Baltimore, Washington, even New York — black and white, male and female — all diseased and transmitting contagious disease, and ready to return to their pursuits shortly after the vice commission has rendered its report on an unnatural and abnormally peaceful state of affairs. In most instances a vice commission must necessarily employ improper and immoral means to obtain the evidence that will convict. When it does not, it assigns to an impossible task a police or detective force that is usually as well known to the public prostitute as the latter is to them. Perhaps as in the Philadelphia journals of yesterday and to-day the personnel, even the names of the officers assigned to detective duty are spread out to public, and of course to prostitute, view. Every item of the work of a vice commission can and should be accomplished more thoroughly, quietly and quickly by an efficient police department serving under a loyal mayor and director of public safety than by a group of citizens, however willing, but altogether ignorant of the first principles of such an investigation as is placed in their charge. The facts are in most instances already in hand; the moral courage to use them is alone lacking.

Official and Departmental Investigation and Control.—These are the forces that must be invoked and applied sanely, persistently and without ceasing. The moment they are relaxed human passion and carelessness of inevitable results will answer for the return of moral and physical conditions that are all too apparently serious to-day. In my opinion no city need harbor either the public prostitute or his or her contagious disease, provided it begin now and continue electing only such public officers as both subscribe to solemn oaths and fulfil their obligations to the public and to humanity.

The public should square itself with the public prostitute and acknowledge that in a large measure it is responsible for her sorry state. Social conditions are tolerated and encouraged by many of saintly speech and mien that render it easy if not imperative that the public woman yield to the temptations of passion, vanity, and man's disregard of woman's honor and fair name. Starvation wages, the unattractiveness and poverty of the home, the opportunity of an easy income far larger than that obtainable in an honest or honorable livelihood, a total ignorance of the inevitably early disease and death that attend this calling, the dance-hall, the average theatrical show, the wiles of the procurer and cadet, the long working-hours, the temptation and finery of the department store, the lack of legitimate pleasure and relaxation are the conditions that help, at least, in recruiting the ranks of the 300,000 and more of America's public women, the average length of whose prostitute life is little over five years. The public owes the prostitute something of sympathy, protection, encouragement and of hospital care, at least when she emerges from her low level to an attempt at better things. Her head should not be pushed down again; she should not be refused employment; she should not be raided or imprisoned unless the same treatment is accorded the man. She ought to be taken into God's fresh air under institutional protection and directing care, under ideal conditions, until she can breathe deep and realize that there are human beings still on the earth who have also erred in one or another direction and who are extending to her a helping hand. She has not violated her oath of office as have the mayor and his subordinates who have perhaps allowed her to become morally and physically infected and as a prostitute to spread contagious disease, nor has she yielded in most instances altogether to her own desire. Grim social conditions have oftentimes pressed her down until her weak will has given way in an attempt to reach the only apparent means of relief and escape from intolerable servitude or impending starvation.

Another mistake that is likely to be made is the overlooking by the citizens of the entire absence and lack of hospital provision for the army of girls and women and boys and men whom any wholesale moral upheaval will throw suddenly on the community. In the state of Pennsylvania there is only one hospital that freely admits for treatment persons suffering from the social diseases as such. Without ample hospital facilities and wards in which to furnish treatment free of charge to all willing to apply, the control of the diseases consequent on prostitution is impossible, and the attempt need not be undertaken with any hope of accomplishment. Such extravagances as the recently proposed placarding of the houses of those infected with the social diseases are ill-advised conceptions of those who are acquainted with neither the social nor the strictly medical difficulties in the way. Victims of syphilis or a gonococcus infection must be encouraged to attempt as speedy and complete a cure as possible, not driven to concealment and the inevitable spread of disease. An exaggerated fear of public exposure means simply and surely an endless chain of infections that will cease only when the social diseases are placed as they should be, in the light of day, beside and in the same category with similar contagions, such as small-pox, typhoid fever and tuberculosis, not one of which compares either in morbidity or indirect mortality with syphilis, or perhaps with gonococcus disease.

SALUTARY SANITARY MEASURES

There are practical measures that are likely to contribute toward final success in the partial or ultimately complete eradication of the social diseases. One of the most important of these is the placing of syphilis and gonococcus disease on the list of the compulsory reportable contagions. California enforces such a provision to manifest advantage. Even New York City provides for limited reporting of these conditions. In no instance is the name of the patient reported to the health authorities; simply the fact (by number) that a new case is in the care of the physician, a brief statement of the character of the infection, its origin when possible, and the adequacy of its supervision and care from the standpoint of the public.

Another strictly official health measure should be the provision for a careful and accurate study of the social diseases. Such an investigation must needs be carried on by the authorities to be complete or of any practical value. It could be rendered successful by the use of a questionnaire placed in the hands of every physician in a given municipality.

Side by side with adequate free treatment for syphilis and gonococcus infection should be offered unrestricted opportunities for obtaining a Wassermann test for syphilis, a serum test for gonococcus infection, or a laboratory examination of specimens and slides for the *Spirochæta pallida* and for gonococci. Quarantine regulations can and should be imposed on patients who refuse proper treatment and thereby endanger the public health.

State control hardly seems practicable at the present time though both the state and national authorities should officially recognize the social diseases as grave problems from the standpoint of morbidity and of indirect mortality. Especially in their bearing on mortality among infants and children should they be listed as hereditary contagions, and accurate statistics be sought after. It may be possible within the near future to spread on the statute books laws similar to those already enacted in several of our western states providing for the requirement of a certificate of health prior to the issuance of a license to marry. Such a law would at best be merely an educational power. It cannot be enforced except in so far as the individual physician is conscientious and has an eye single to public duty. This end can be accomplished in even fuller measure by the people themselves when they are of a mind to establish the custom of exacting just such a certificate in the absence of a law covering the point.

Another invaluable measure must be the furnishing by every city of all its hospitals with private and free wards for the decent and skilful treatment of syphilis and gonococcus disease. This has already been referred to as absolutely necessary to success.

Another measure might well be the systematic education of all those who probably carry infection, especially of the public prostitute so long as she is an acknowledged member of a community, with respect to her own invariable infectiousness to the public, not only to the men with whom she cohabits, but through them and also independently of them to other and innocent individuals.

Still another would be the posting in the front hall of every building, respectable and otherwise, of the name and address of the owner of the property. If held in the name of a corporation or estate the name of the latter should be displayed. In Iowa an injunction can be obtained against the keeper of a house of prostitution, as well as against the owner of the property. A fine of $300 may be imposed by the court against the property, constituting a tax lien which takes precedence over a mortgage and serves as a cloud on the title. The property is enjoined forever from use for immoral purposes and for one year from use for any purpose whatsoever, except under certain specified conditions.

A fifth would be the formation of definite organizations whose sole aim would be the securing of ample living wages for girls and women for services actually rendered. This step would be an active preventive measure against public prostitution, and still more powerful in the control of the even more serious problem of clandestine immorality which serves as the most active means of spreading the social diseases among the needy working girls, and through them to boys and men.

Sixth, the cities can and should maintain a real home, an outdoor institutional guardianship, not in the nature of a penal institution, for wayward girls who need and desire a guiding and directing hand back into physical and moral health. Definite provision should be made for the protection of the public against infected and infectious cooks and table servers (hotel, restaurant and lunch-counter waiters), colored and white; also for a full medical certification as to the freedom of certain classes of household servants, especially of nursery maids and butlers, from transmissible disease. One of the largest railroad systems in the country is of its own volition already insisting on a regular periodic physical examination by the company's medical officer of its entire restaurant station and train force on pain of prompt dismissal in the event of refusal to submit to the inspection. For identical reasons the common drinking-cup, the roller towel, and the public piece of soap, should be forbidden by law. The cities can and should furnish properly managed outdoor gymnasiums, baths, dance-halls and playgrounds, not only for its children but for its young adult men and women. From both of these uncared-for classes come the substitutes that fill the ever depleting ranks of the diseased and dying prostitute.

Finally, it would not be an impossible thing for the women of a city effectually to demonstrate to the men that since prostitution is no longer looked on as a physical necessity for either sex, it must no longer be indulged in by the loyal citizen. A prompt handling of all attempts to entice and solicit on the part of men; the public exposure and summary punishment of all males and females detected practicing any form of prostitution; the oversight of the moral and physical welfare of its boys and girls, at least to the extent of safeguarding and preventing them from easy contact with prostitution and from exposure to the social diseases in public houses of ill fame — lie within the power of the large cities and afford opportunities that should not be overlooked of prevention as by all odds the best and cheapest form of cure. The women and the physicians of a community really have the solution of the prostitution problem within their grasp and control. Both prostitution and the social diseases will begin to disappear the moment the women and the physicians so decree. With power comes the responsibility of *noblesse oblige*. With the new opportunity comes also a shame born of oft-repeated unwillingness and refusal. Only through educated, brave men and women and through the intelligent action of him whom we still love to call the family doctor, will that new body of citizens be reared who will know all the facts, and regard prostitution and its diseases as burning life-problems, and who will not stop short of a radical cure of evils for the continuance of which through their inaction they have been in a considerable measure responsible.

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ABSTRACT OF DISCUSSION

DR. R. E. LEDBETTER, Washington D. C.: Venereal disease is one of our greatest problems in the Navy. Last year, 11,150 men were admitted with venereal diseases or their sequelæ, 191 of whom were totally disabled and had to be discharged from the Navy. Our personnel being about 45,000, it will be noted that approximately 25 per cent. of our men were infected during the year. The number of admissions, 11,150, corresponds to the number of men required to man ten first-class battle-ships. We now have compulsory venereal prophylaxis in the Navy, and our results since its institution have been fairly good, and we hope for better results in the near future. Briefly, the method consists of injections of argyrol and local applications of calomel ointment within twelve hours after coitus. Just now the percentage of venereal admissions would appear to be greater than ever before, but this is only apparent and not real, as now the medical officers are reporting every case, whereas in former years, many patients were not reported, as they could still work. We hope with venereal prophylaxis and education to reduce the rate of admission to 25 or 30 per cent. of what it is now. The layman can help us by teaching the public to respect our uniform, and by urging legislation to restore the canteen. This would materially lessen venereal infection in the Navy, as on account of their uniform the men, except in Rhode Island and the District of Columbia, cannot enter a respectable café or theater, and must gravitate to the slums, where many of them contract venereal disease. We are doing all we can to educate our men, and assistance would eventually lesson our venereal problem very much.

DR. GUY L. KIEFER, Detroit: I hope with Dr. Willson that the time is near at hand when all houses of prostitution will be banished from our cities, but unfortunately this time has not arrived. It may be disgraceful but we must admit that houses of prostitution do exist and that the inmates of these houses do spread these diseases, and while it is maintained by some that this is a small part of the problem, it is large enough. We know from the estimates that have been made that the number of exposures in a city like Detroit, for example, are about 750 in a day from this source. It seems to me that it is necessary for a health department to meet this condition. I do not believe in regulation of houses of prostitution in the sense of segregation and regular examination of the inmates because this has been tried and has failed, but I do believe in the examination of all known prostitutes in a given city by the officials of the department of health at irregular and unannounced intervals, with the proviso that, if any of the women are found to be diseased when these unannounced examinations are made, then the house will be placarded. Such a method will result in the reporting of the cases to the department of health, and the reporting of cases of contagious diseases of any kind is the first step necessary in a campaign for the prevention of such diseases. Whenever cases of venereal diseases are reported to the department of health, the infected persons should be removed at once to a hospital and kept there until their case is no longer infectious.

DR. GEORGE M. STERNBERG, Washington, D. C.: It seems to me that the most important thing to keep in mind is the educational campaign. If we can show our young men and our young women an exhibit which shows the results of venereal infection and the statistics relating to the prevalence of these diseases, I think it would have a greater effect than any amount of legislation relating to prostitution.

DR. SARAH J. MCNUTT, New York: Much has been suggested as to what should be done with the prostitute woman in order to control venereal diseases. Since it is a well-recognized fact that there are more than twelve prostitute men to every prostitute woman, it would seem neither just nor right that the woman alone should be arrested, examined and, if found infected, retained for treatment, while all the men prostitutes are allowed to go free, and at will to scatter these diseases broadcast throughout the land. If one is examined, retained and treated, so should all be examined, retained and treated.

MR. W. A. HOWE, Albany, N. Y.: It seems to me that the question of prostitution is not the only point where we should attack the prevalence of venereal diseases. To my mind equally as much venereal disease is contracted outside as inside of houses of prostitution. For that reason we should attack both sources of infection, that so frequently are seen as a result of clandestine intercourse, as well as that contracted in houses of prostitution. Here, as in practically every problem of public health, the question resolves itself into one of practical education. It is one thing for us to get together to tell each other that we should educate the people in the suppression of these communicable diseases, but it is quite another matter to determine how we should conduct that education. It is the intention of Commissioner Porter to appoint in the immediate future about twelve prominent women physicians of the state to conduct an active campaign of education among various organizations of women, among working girls, etc., as to the prevalence of venereal diseases and their dangers. A similar line of education will likewise be conducted by a certain number of men physicians who will conduct similar meetings among organizations of their own sex. In our state we have already enlisted the active cooperation of the W. C. T. U., the Y. M. C. A. and various other religious and civic organizations in our crusade of education for the control of venereal diseases. We expect at no distant day to be able to get into the high schools of our state likewise to teach the boys and girls as much of sex hygiene as may be advisable and of material assistance to them in appreciating and escaping the danger of these extensively prevailing diseases.

DR. JOHN F. ANDERSON, Washington, D. C.: It does not seem to me that the placarding of houses of prostitution is going to do a great deal of good. It results in the scattering and depopulation of those particular houses.

DR. H. D. PEASE, New York: All my educational efforts have been confined to the field of tuberculosis. I am, however, much interested in watching the development of activity looking toward the prevention of venereal diseases. In reply to Dr. Sollmann's suggestion, I may say that as far as my recollection serves me, comparatively little relation has been

found between tuberculosis and venereal diseases from a strictly pathologic standpoint. The subject might develop interesting results on investigation.

DR. ELNORA C. FOLKMAR, Washington, D. C.: It seems to me that in dealing with this problem at present from the educational side we must aim to reach certain classes or groups. First of all, we must reach the parents of the coming generation and we must, as far as possible, reach the coming generation. Many parents are not fitted to teach the young concerning sex hygiene and have no time to prepare for the work. We must, therefore, get at the young people themselves. Another group of persons we must reach is the class of employers. We must demonstrate to them the amount of inefficiency that results from venereal disease. When we touch an economic problem we get support which will help us to carry education all along the line.

In the work in Washington, which was undertaken last year under the auspices of the Woman's Clinic and the Committee on Public Health Education Among Women of the American Medical Association, we did not attempt to press the subject home to any group. We announced that we were ready to give talks on sex hygiene whenever they were called for. One request was made, then another and another until at the end of the year, the last month of our educational campaign, which covered other subjects than sex hygiene, almost all the requests were for lectures on sex hygiene. The requests came from mothers and teachers who are intensely interested in the problem "What will become of our sons and daughters?"

DR. ROBERT N. WILLSON, Philadelphia: I omitted an extended discussion of clandestine prostitution from my paper, since it is too large a subject. It is an important field and the largest number of venereal infections probably spring from it. Its consideration does not properly form a branch of public hygiene and is rather a social problem, one of education and sociology, and especially a question of home surroundings and home management. Whether we will ever handle it properly is a matter for Providence to decide. The clandestine prostitute is more dangerous even than the professed public woman, though there is no prostitute more than a few weeks at her trade without infection from one or both of the two social diseases. I think the method suggested of telling our young people, as in the Navy, that there is a possible prophylaxis, would be most unfortunate. I think it is morally unwise, unnecessary and an invitation in the wrong direction. Moreover there is no certain preventive.

I do not think you can frighten any boy into being moral or clean. In the University of Pennsylvania medical department we find the highest percentage of students who suffer from the social diseases; the next highest is obtained in the dental school, and the next in the veterinary. There is always a percentage of infections among practicing physicians; how high nobody knows. Education will not therefore do all. I believe there is a definite relation between tuberculosis and syphilis. I believe the negro race offers a case in point, syphilis existing there side by side with tuberculosis, and offering a ready soil for its development. I have never seen a negro recover from incipient tuberculosis, and believe the mortality of the two diseases is in the negro race a composite one. Last of all, I wish to say that I believe this is not a hopeless problem. I believe the fact that some of the younger medical men and women have within fifteen years seen the work progress from the stage in which all who undertook it were challenged as seeking advertisement to that in which there are demands received every day for teachers and for sane instruction; this, I believe, is the best augury of final success.

No Automobiles in Yellowstone Park.—Physicians who have had vacation outings in mind have inquired whether automobiles are allowed in Yellowstone Park. They are not. It is said that an understanding with the firm that runs coaches in the park stands in the way of the admission of automobiles. Pressure is being brought to bear and it is probable that within a year or two the park will be opened to automobiles. Much improvement in roads will be necessary.

UROBILIN: ITS CLINICAL SIGNIFICANCE

PRELIMINARY REPORT *

RAY LYMAN WILBUR, M.D.
AND
THOMAS ADDIS, M.D.
SAN FRANCISCO

To follow the fate of hemoglobin within the body or to unravel the intricate skein of important functions carried on by the liver cell offers many difficult problems, but we are steadily progressing toward a better solution of them. Probably no substances have stimulated more interest and led to the production of more theories along these lines than urobilin and its mother substance urobilinogen. It now seems beyond reasonable question that these bodies are derived from hemoglobin, either with or without preliminary formation of bile pigments.

While there are several ingenious theories of their production, each one with its fatal defects, the most generally accepted is that of Friedrich von Müller, which is that urobilin comes only from bile pigments subjected to bacterial decomposition within the intestinal tract, and he points in corroboration to the supposed absence of urobilin from the excretions of patients with complete obstruction of the common duct and to its appearance in such patients when they are fed normal pig's bile. Recently from von Müller's own laboratory Fischer and Meyer-Betz[1] have reported finding small quantities of urobilinogen (hemibilirubin) in concentrated extracts of urine from a patient with complete biliary obstruction, a finding which they ascribe to the elimination of small quantities of bile pigment directly through the jaundiced intestinal wall into the intestinal lumen.

Fischler,[2] from a series of experiments principally on dogs with biliary fistulas, has concluded that not only does a urobilinuria point to an inability on the part of the liver to perform its normal function of modifying the absorbed urobilin that comes to it from the portal circulation, but that the urobilin may be also a direct product of abnormal hepatic cell activity. Severe hemolysis is accompanied by any one of a series of conditions varying from the thickening of the bile from the increased pigment derived from the breaking down of the hemoglobin (pleiochromia) to a hemoglobinuria. With only moderate blood destruction increased urobilin or urobilinogen in the stools and urine are the only indications of a process which, when severe or acute, transcends the ability of the liver to reduce the hemoglobin and so permits its appearance as such directly in the urine. Thus it is probable that the best measure of erythrocytic destruction is to make parallel studies of the amounts of urobilin and urobilinogen in the feces and urine. At the same time much information can be obtained as to the functioning of the hepatic cells.

METHODS

The urobilin group are end-products resulting from the breaking down of the pigment moiety of hemoglobin within the body. The different steps in the process are being gradually worked out, and especially within the

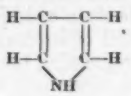
* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Third Annual Session, held at Atlantic City, June, 1912.

* From Laboratory of Medicine, Medical Department of Stanford University.

* Because of lack of space, this article is abbreviated in THE JOURNAL. The complete article appears in the Transactions of the Section and in the authors' reprints. A copy of the latter will be sent by the authors on receipt of a stamped addressed envelope.

1. Fischer and Meyer-Betz: Wien. med. Wchnschr., 1912, lix, 749.
2. Fischler: Dissertation, Heidelberg, 1906.

last few years great advances have been made in the chemistry of the decomposition products of hemoglobin pigment. Structural formulas have been advanced for some of them, not, it is true, with any claim to absolute accuracy, but sufficient to serve as working hypotheses on which to base further investigation. In general it has been well established that the essential feature of all this group of substances is the pyrrol nucleus.



Hemoglobin pigment contains four of such nuclei; bilirubin, the form into which the hemoglobin pigment is converted in the liver, probably also has four, whereas it seems not unlikely that urobilinogen contains two and the urobilins perhaps only one. The breaking down process, therefore, appears to consist in a separation from each other of combined pyrrol nuclei. It is important to bear in mind that the term urobilin covers a whole group of substances which have in common the pyrrol nucleus, but differ in the character of the side chains attached to this nucleus. Numerous pyrrol derivatives have been synthetically prepared which give the two characteristic reactions of urobilin, the fluorescence with zinc salts, and the spectroscopic absorption band between b and F. These are therefore group reactions and not specific for any one substance. The methods based on the spectroscopic characteristics of urobilinogen and urobilin appeared from the first to hold out greater promise of accuracy than any others. In acid solution urobilinogen in the presence of paradimethylaminobenzaldehyd shows a sharp band between D and E, that is, between yellow and green, while urobilin in acid solution gives the band between b and F, that is, between the green and the blue. The basis of the method used by us is the determination of the number of dilutions required to cause the disappearance of the spectroscopic absorption bands of urobilinogen and urobilin. Its details will be taken up later in a more comprehensive paper.

CASES

While a series of cases representative of the following types have been studied, time prevents recital of more than a few.

Blood Destruction.
1. Within the vessels.
   A. Pernicious anemia.
   B. Chlorosis.
2. Outside the vessels.
   A. Large pulmonary infarct.
   B. Hemorrhagic ascites.

Hepatic Cases.
1. Cirrhosis.
2. Cancer.
   A. With complete obstruction.
   B. With incomplete obstruction.
   C. Without obstruction.
3. Biliary Fistulas (gall-stones).

Cardiac Insufficiency.
1. Chronic insufficiency.
2. Acute insufficiency followed by recovery.

Renal Insufficiency.

Pulmonary Disease (pneumonia, etc.).

Gastro-Intestinal Diseases (gastric carcinoma, etc.).

The following cases were chosen from among a number we have followed, not so much to show the present value of urobilin estimations as to emphasize their possible future importance. Until more definite knowledge is obtained as to the source or sources of origin of urobilin and the factors which influence its excretion, its clinical significance must remain uncertain and problematic.

CASE 1.—*Liver Disease: Complete Closure of the Bile-Ducts; Carcinoma.*—The patient, F. W., was 55 years old. Four months previous to admission on March 18, jaundice unaccompanied by any symptoms had gradually set in. The skin was a deep olive color. The liver was greatly enlarged. No irregularities could be detected. The gall-bladder was not palpable. Wassermann positive. Ascites was first found April 20. An exploratory operation was performed April 24. The patient died April 27.

At post-mortem a large carcinomatous mass was found within the liver.[3] The hepatic ducts were completely occluded. The gall-bladder was small and contained mucus, no more bile-stained than the mucus in the respiratory and intestinal tracts. The cystic and common ducts were patent. The intestines were almost empty, but some contents were collected at different points and after diluting with acid alcohol until as far as possible an equal consistency was obtained in all the specimens, the urobilin was extracted. The following figures were obtained: stomach, 0; duodenum, 0; jejunum, 0; midway in small intestine, 4; lowest part of ileum, 4; cecum, 13; transverse colon, 12; descending colon, 0.

The blood and tissues gave negative results. In fluid from the peritoneal cavity a reading of 4 was obtained from 10 cm. In the fluid removed from the necrotic center of the carcinoma above the blocked bile-ducts a reading of 4 was found in 10 cm.

Chart 1 shows that no urobilin was ever found in the urine. Small amounts were found occasionally in the stools. It should be noted here that in this case the urobilinogen was not taken into account. It has been shown by Von Moraczewski[4] that in acholic stools the amount of indol is considerably increased. Now indol in acid alcoholic solution forms a pigment with Ehrlich's reagent which has a spectroscopic absorption band different from that of urobilinogen indeed, but yet so near it as to make confusion possible. The amount of indol in any given case is small and in non-acholic stools could not make any appreciable difference, but in this case in order to avoid any possible error we left out the urobilinogen estimations altogether. By leaving the stools standing for from twenty-four to forty-eight hours in a dim light most of the urobilinogen was turned into urobilin. Still it is probable that the actual amount of urobilin was greater than our figures represent. The question arises then as to the source of this urobilin. No bilirubin was entering the intestine from the liver and it does not seem likely that the traces excreted through the intestinal wall could be responsible, since after giving 5 gm. of dried bile no urobilin was found. Yet if the theory of the intestinal formation of urobilin is accepted, no other explanation is possible.

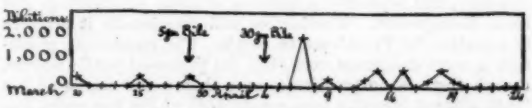


Chart 1.—F. W. Complete closure of gall-ducts; carcinoma. In this and the following charts urobilin in the stools is indicated by a line with crosses; urobilin in the urine, by a line with heavy dots; urobilin in bile, by a line with circles.

In this case von Müller's experiment was repeated. He found that in a case of complete duct closure

3. The carcinoma had liquefied in the center. When the cavity was opened numerous bright red particles were found adhering to the walls. Some of these were collected and on examination proved to be the red form of mercuric sulphid. Shortly before death the patient had had energetic mercurial treatment by inunction.

4. Von Moraczewski: Arch. f. Verdauungskr., 1908, xiv, 375.

urobilin previously absent from both urine and stools, appeared after bile was given by the mouth. On this is founded the theory of the exclusively enterogenous formation of urobilin. In our case, as can be seen from Chart 1, 5 gm. of dried bile, which was found to be free from urobilin, produced no effect. Six days later 30 gm. of inspissated bile was given. Three hours later the patient complained of nausea and epigastric pain. Shortly afterward he began to vomit small amounts of fluid containing altered blood but no bile. At this time he was in a condition of collapse from which he did not completely recover for forty-eight hours. There was no diarrhea. In spite of this large dose of bile no urobilin was found in the urine although a moderate amount of urobilin appeared in the stools three days later.

CASE 2.—*Blood Destruction: Subacute Bacterial Endocarditis.*—The patient, H. D., aged 33, entered the hospital, April 5, 1912, with symptoms of cardiac insufficiency and edema of the legs of ten days' duration. He gave a history of ill health for two months with occasional fever and night sweats. Signs of aortic and mitral regurgitation were found. The cardiac symptoms and the edema disappeared after a few days in bed

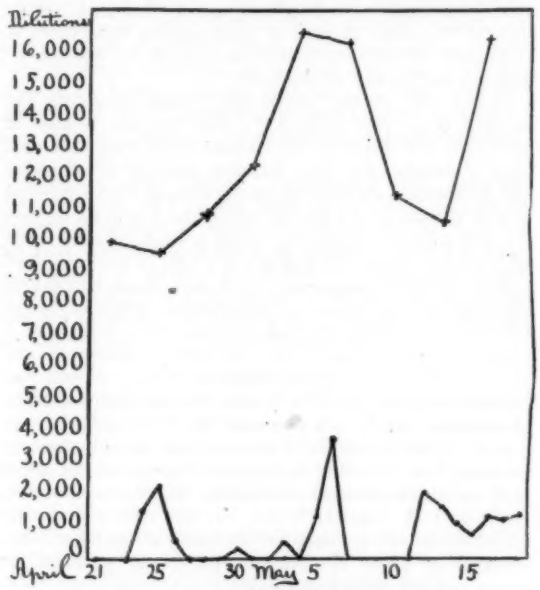


Chart 2.—H. D. Subacute bacterial endocarditis.

but the patient remained weak and obviously ill. Every evening there was a marked rise of temperature. April 19, the red cells numbered 3,800,000, with 56 per cent. hemoglobin. May 14 the red cells were 3,000,000, with 56 per cent. hemoglobin. Diagnosis of subacute bacterial endocarditis was made.

Chart 2 represents urobilin elimination in stools and urine. The fecal excretion is represented as averages of three-day periods. The amount of urobilin is two or three times as great as normal. Yet the amount of hemoglobin broken down balances the amount built up, for there is no change in the percentage of hemoglobin. Nevertheless the hemoglobin metabolism is not normal, for the large urobilin excretion indicates that much more hemoglobin is disintegrating than in conditions of health. It will be noted that there is no relation between the amount of urobilin in the urine and in the stools, which indicates that other factors besides the amount of urobilin in the stools must influence the urinary excretion of urobilin.

CASE 3.—*Gall-Stone Dyspepsia.*—E. W.'s case was one of long standing. There was no trace of icterus and none had been noticed for fifteen years. At the operation, May 4, the gall-bladder was found to be much thickened. A stone was present in the common duct. The gall-bladder was drained. After the operation the stools became clay-colored. The manipulations had evidently caused a closure of the duct.

On Chart 3 it will be seen that there is little urobilin in the stools, no more than was found in the case of complete duct closure. May 16 and thereafter a moderate amount was found, indicating that some bile was entering the intestine. The most interesting point about the chart, however, is the large amount of urobilin pres-

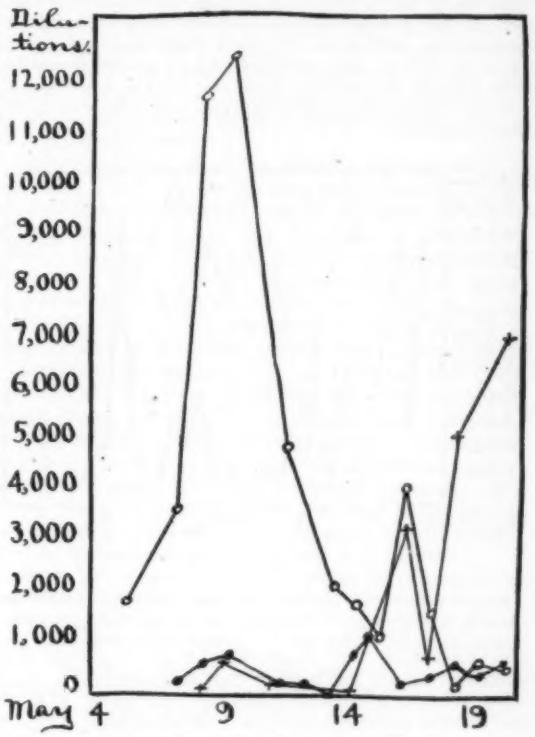


Chart 3.—E. W. Acute closure of common duct.

ent in the bile at the very time when little was formed in the intestine. As the amount of urobilin in the stools increased, the quantity in the bile decreased. This urobilin in the bile cannot have been derived from the intestine. It is possible, though improbable, that it was formed in the gall-bladder, but this explanation does not apply to the urobilin in urine. This, then, is another instance of the inability of the theory of the enterogenous formation of urobilin to explain the facts.

CASE 4.—*Failure of Cardiac Compensation.*—The patient, H. B., presented a case of aortic incompetency with broken compensation. He entered the hospital, April 11, with general anasarca. The liver was enlarged and there was tenderness in that region. During the first few days his condition became better, the size of the liver diminished and the tenderness disappeared. From that point, however, improvement ceased.

Chart 4 shows an amount of urobilin above the normal though not so high as in the case of infective endocarditis. There was a rapid fall in the amount of urobilin in the urine after admission without any corresponding decrease in the urobilin in the stools. This decrease in urinary urobilin may have been associated with the improvement in the circulation in the liver which occurred at the same time.

CASE 5.—*Migraine.*—The patient, M. B., had a typical case of migraine. A small amount of urobilin was found in the urine during one attack. Some time afterward when the patient was free from headache none was found. During a subsequent slight headache (not of the migraine type) the urine was again negative.

CASE 6.—*Blood Destruction: Pernicious Anemia.*—The patient, Dr. B., aged 50, had a history and symptoms suggestive of pernicious anemia. Blood-films taken shortly before death showed an increase in the average size of the red blood-cells, marked poikilocytosis and anisocytosis with numerous megaloblasts. During the fortnight preceding death three specimens of urine were examined, and all showed unusually large amounts of urobilin. With the average excretion of urine of 1,000 c.c. the dilution values would have been 7,200, 10,800 and 5,600.

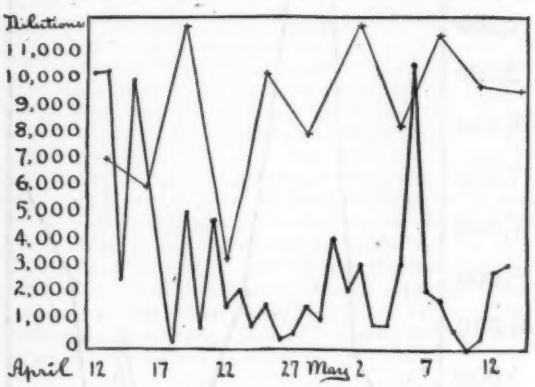


Chart 4.—H. B. Failure of cardiac compensation.

At the post-mortem, besides the usual findings in pernicious anemia, an extensive dilatation of the colon which contained quantities of solid feces and an increase in the connective tissue in the liver were found. Some black sticky bile was obtained from the gall-bladder. This bile contained urobilin far in excess of any amount previously found by us. From 10 c.c. urobilin was extracted with a dilution value of 2,940. Assuming the amount of bile excreted in twenty-four hours to be 600 c.c. (Zoja), this would represent a dilution value of 1,746,000 for the twenty-four hours. Ten grams of the contents of the intestinal canal were removed at various points and the following dilution values obtained: duodenum, 1,000; jejunum, 1,800; ascending colon, 1,649; and sigmoid, 1,000. No urobilin was detected in the blood or in any of the tissues.

SUMMARY OF CLINICAL CONDITIONS

With the above described cases in mind, a review of the present status of information in regard to those clinical conditions accompanied most commonly by the elimination of abnormal amounts of urobilin and urobilinogen seems worthy of presentation.

Pernicious Anemia.—While simple anemia may or may not be accompanied by a urobilinuria, increased quantities of urobilin in the stools and urine in pernicious anemia have been recorded by a number of observers (Neuberg,[5] Scheel,[6] Münzer and Bloch,[7] Hildebrandt,[8] Gerhardt,[9] and others).

Numerous and careful studies of the relation of urobilin in pernicious anemia should throw considerable light on the processes by which the red blood-cells are destroyed by the toxic factors evidently present in this disease.

Malaria.—The breaking up of the red blood-corpuscle and hemoglobin is such a characteristic factor in malaria that we would expect increased quantities of urobilin to appear in the excretions at or near the time of malarial paroxysms. Simpson[14] found an enormous increase before and subsequent to the fever. He considers the urobilin in the urine as only an indicator of the absorptive capacity of the intestinal wall and as useless in itself to determine the amount of hemoglobin-metabolism, but that combined examinations of the stools and urine give valuable results, the total output of the urobilin corresponding closely to the amount of hemoglobin destroyed.

Diseases of the Liver, Especially Obstruction of the Gall-Ducts and Cirrhosis.—The description of the improbable "urobilin icterus" by Gerhardt, together with the changes discovered in the amount of urobilin in the urine of patients suffering with various hepatic disorders, has long excited the interest of clinicians, but in spite of the large amount of investigation done there is at present no uniform understanding of the relation of urobilin to diseases of the liver.

Obstructive lesions, particularly those involving the common duct, have been of the most interest because of Friedrich von Müller's experiments indicating that urobilin originates only from bilirubin reduced in the bowel and Neubauer's observation on the absence of the aldehyd test in the urine of cases in which the bile fails to pass into the intestine along the common duct. Fromholdt[21] believes that when bile is given in a case of common duct closure (Müller's experiment) it acts as an irritant to the liver and so leads to urobilinuria. Fischler found that dogs permitted to lick up their own bile from a biliary fistula, which had previously prevented the presence of bile within the intestine, became ill and had an increased susceptibility to liver poisons (amyl alcohol, phosphorus, etc.) and presented later a marked overgrowth of connective tissue within the organ. Increasing evidence that urobilin can originate outside of the intestine is accumulating (Gerhardt, Tsuchiya, Troisier, Guilliam and Troisier, Beck), but nevertheless valuable information can be obtained in cases of jaundice with obstruction from observations as to its presence or absence in the urine and stools.

In general we may, without entering into the various theories of the origin and excretion of urobilin and urobilinogen, state that an increased elimination of these substances takes place in parenchymatous liver lesions (unless too acute and severe) and that there is a marked reduction or absence of these substances in complete obstruction of the common duct, so that urobilin estimations become of much value in diagnosis and prognosis of many hepatic diseases.

Pneumonia.—The striking assertion of Zoja[26] that blood regeneration must go on ten times faster than normal in some cases of pneumonia if the blood is to

5. Neuberg: Der Harn, Berlin, 1911, Part I, 910; Part II, 1204.
6. Scheel: Ztschr. f. klin. Med., 1911, lxxiv, 13.
7. Münzer and Bloch. Arch. f. Verdauungskr., 1911, xvii, 260.
8. Hildebrandt: Ztschr. f. klin. Med., 1906, lix, 351.
9. Gerhardt: Dissertation, Berlin, 1899.
14. Simpson: Biochem. Jour., 1911, v, 378.
21. Fromholdt: Ztschr. f. exper. Path. u. Therap., 1911, ix, 268.
26. Zoja: Fol. Haemat., 1910, x, 225.

retain its regular amount of hemoglobin and its usual number of red blood-cells is based on estimations of urobilin in the urine and stools. The increase in urobilin is thus considered by him a measure of blood destruction, and taken with the percentage of hemoglobin and red blood-counts, a measure as well of the work done by the hemopoietic organs. Many investigators have reported the finding of urobilin in pneumonia. Möller[27] with Biffi's method[28] found urobilin in the serum of two pneumonia patients. Out of sixty patients, Conner and Roper[29] found urobilin in the blood, but none in the affected lung tissue, of ten who were in the last stages; nor were they able to show that it came from bacterial action on hemoglobin.

Prognostic Value in Cardiac Lesions.—Case 4 (that of H. B.) is typical and shows clearly the value of urobilinuria in estimating the amount of stasis in the liver in failure of cardiac compensation. With improvement and consequent decrease in the size and tenderness of the liver there was a rapid decrease in the amount of urobilin in the urine without a corresponding fall in the fecal excretion. A recurring period of decompensation was inaugurated by a premonitory increase in the urobilinuria. In general, liver stasis is accompanied by a marked urobilinuria. Its estimation serves as a guide by which one may follow the beneficial results of administered digitalis. Cases with cyanosis and with hypercythemia, but without marked liver engorgement, present no increase in the urobilin in urine. Fischler considers a urobilinuria which persists after compensation has been regained as evidence of a pathologic condition of the liver.

Migraine.—The increased urobilinuria found in Case 5 (that of M. B.) at the time of migraine attacks is suggestive, especially when considered in the light of the very effective treatment of Rachford,[34] which aims to prevent the periodic headaches by the persistent use of drugs thought to stimulate elimination from the liver. Too few cases have been observed to more than indicate the desirability of further investigation.

CONCLUSIONS

1. Simultaneous estimation of urobilin and urobilinogen in the stools and urine, after certain allowances are made for the state of the liver and intestinal peristalsis, permits valuable approximations to be drawn as to the amount of hemoglobin broken down within the body.

2. Urobilinuria may be used as an early indicator of the failure of the liver to functionate normally in alcoholic individuals with enlarged and tender livers.

3. While in a jaundiced individual the persistent failure to obtain positive tests for urobilinogen in the urine by the present methods points usually to absolute closure of the duct, there seems to be evidence against the correctness of the commonly accepted view that the only origin of urobilin is from the reduction of bilirubin in the intestine, this evidence consisting in the presence of not inconsiderable amounts of urobilin in the stools of patients in whom very little bilirubin (closure of the common bile-duct) or no bilirubin (closure of the common duct and a biliary fistula) reaches the intestine.

4. The urobilinuria and urobilinemia of pneumonia deserve more study as the occurrence of urobilin as such in the blood is apparently, by the present methods, found during life only in this disease, and it may indicate that peculiar relations exist between urobilin and the factors accompanying cyanosis.

5. The discovery of a persistent urobilinuria should incite a careful study for all possible factors leading either to blood destruction or to parenchymatous or obstructive hepatic disorders.

27. Möller: Berl. klin. Wchnschr., 1909, xlvi, 2303.
28. Biffi: Fol. Haemat., 1906, iii, 189; 1907, iv, 533.
29. Conner and Roper: Arch. Int. Med., 1908, ii, 532.
34. Rachford: Med. News, 1903, lxxxiii, 630.

MY EXPERIENCE WITH DIABETIC PATIENTS LIVING TEN OR MORE YEARS *

ELLIOTT P. JOSLIN, M.D.
BOSTON

It was a gratifying surprise to me to discover that sixty-seven of my patients with diabetes had lived, or were still alive, at least ten years after the onset of the disease. The discouragements which beset the life of the diabetic patient and his physician are so great that the brighter aspects of the disease should constantly be brought into the foreground. Furthermore, lessons are always to be learned from a study of the extreme aspects of any disease. Therefore it appears desirable to me to report on my cases of diabetes of long, rather than of short, duration.

Eleven per cent. of all the cases of diabetes which I have seen in private practice have had a duration of ten or more years; but the figures are far more favorable than this, because, out of these 505 cases, I have, at the present writing, been able to trace the outcome in only 394 cases. The proportion of cases of ten years' duration of which I know the present state, therefore, rises to 17 per cent., and yet this figure is too low, because a large number of the living patients have acquired their diabetes less than ten years ago. If I subtract this number, which is 141, from the number of diabetics of which I have discovered the outcome there remain 253 cases, representing the number which are actually eligible for statistics. Of this number, sixty-seven patients having lived ten or more years with the disease, we can say that 26 per cent., i. e., one in every four, may look forward to a duration of life of at least ten years from the onset of their malady.

The usual preponderance of diabetes in the male sex prevails. Of my sixty-seven patients forty were males.

The onset of the disease was at 16 years of age in one patient, and 69 in another. Contrary to expectation, nearly one-third of the patients acquired the disease under 40, and only five after the age of 60. The remainder were equally divided between the fifth and sixth decades.

TABLE 1.—TABULATION OF ONSET OF DIABETES IN SIXTY-SEVEN PATIENTS ACCORDING TO AGE

Age at Onset Years	Number of Cases
11-20	3
21-30	5
31-40	12
41-50	21
51-60	21
61-70	5

It is thus apparent at the outset that these cases of long duration were not simply due to the mild diabetes of elderly people.

The duration of life in one patient was thirty-five years, and in five others twenty years or more. Thirty-nine of my patients are still living, and of this number fourteen have had the disease at least fifteen years.

* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Third Annual Session, held at Atlantic City, June, 1912.

Practically all of the patients were of American extraction. Four were Hebrews and one was an Irishman.

Syphilis was known to me to exist in only five of the cases. I am sure, however, that it was present in a much larger proportion. All will agree that statistics on syphilis in diabetes are to-day of no value. Within a few years syphilis may reach a position of great importance in diabetes. I would call attention to the case reported by Umber, in which the diabetes was most favorably influenced by salvarsan. All should scan each new case of diabetes and its possible connection with syphilis with great care. No case of diabetes has come under my personal observation which has been favorably influenced by antisyphilitic treatment. I mean, however, to be most open-minded on the subject.

The severity of the disease is attested by the presence of acidosis in thirty-five of the cases, and also by the fact that of the twenty-eight patients who died, twelve died in coma. On the other hand, it is true that, contrary to the rule that the severity of the disease increases with its duration, a certain number of the cases became less severe as time advanced. Thus, fifteen were free from sugar before death occurred. Some of these cases too were of considerable severity and, as a rule, they were of long duration. So far as I am aware acidosis was absent in all but one of these cases. Of course, sugar may have persisted in an increased quantity in the blood, and yet been absent from the urine. But because of the absence of acidosis I am inclined to believe that the sugar in the blood did not reach, toward the end of the disease, a height above the normal level.

The cause of death was, as above stated, diabetic coma in twelve cases. In only eight cases was death directly attributable to arteriosclerotic conditions. Pulmonary tuberculosis was the cause in one patient. Contrast this with the probable statistics of twenty years ago. It is interesting that the patient who finally died with pulmonary tuberculosis represented one of the severest cases in the group, and yet toward the end of life the diabetes decreased in severity, yielding preference to the tuberculosis. I have several other examples of this sort. Pneumonia occurred three times, cancer once, and pernicious anemia once, as causes of death. The cause of death was not ascertained in two cases.

The classification of the cases is extremely difficult. Eight cases were pure diabetes and can be so grouped in the Naunyn sense. Fifty-two can be similarly grouped if we would include in this number thirty-two patients who were also obese and nine at the age of 59 or over. Five cases were of extremely mild type and might be grouped under glycosuria, though, better, I think as mild diabetes. One case was of a functional neurotic character and the remainder could not be classified.

How did it happen that these sixty-seven diabetics lived so long?

1. Obesity surpasses all other factors as an explanation. Twenty-six weighed over 200 pounds at some time or other of their lives, and thirty-five weighed at least 180 pounds. If we study the duration of life of the distinctively fat patients we find it to be fourteen years for the nine who died, and thirteen years for the seventeen who are still alive. In contrast to this, the duration of life for the fifteen patients of moderate weight now dead was thirteen years, and for the fourteen of moderate weight yet alive also thirteen years. The type of diabetes among the fat patients was mild. Presumably these same individuals would not have developed diabetes if they had maintained normal weight. Modern medicine demands the prevention of obesity as prophylaxis against diabetes. I realize that another interpretation could be put on these figures, namely, that if there is a disposition to acquire diabetes, one had best be fat, but I believe most will agree that the figures can be better utilized as reason for prophylactic treatment against the onset of the disease rather than as prophylactic treatment against death after the disease has begun.

The loss of weight ranged from 109 pounds in one individual to a gain in weight of 1 pound in another. The usual loss of weight was 40 to 50 pounds.

TABLE 2.—TABULATION OF LOSS OF WEIGHT IN SIXTY-SEVEN DIABETICS

Loss of Weight Pounds	Number of Cases
0- 10	7
11- 20	4
21- 30	13
31- 40	9
41- 50	9
51- 60	6
61- 70	2
71- 80	1
81- 90	0
91-100	0
101-110	1
Gain in weight	1
Unknown	14

2. Three qualities of temperament constitute a second reason why these patients lived so long. These qualities were common sense, courage and cheerfulness. These patients were not led into fads of treatment either by physicians or by the advertisements of patent medicines. They were practically all individuals of strong character who, realizing their disease, made up their minds to fight it through to the very end. They were not cowards. A cowardly diabetic has a poor prospect for life. Cheerfulness was more than noteworthy as a characteristic of these people. It was well-nigh universal.

3. There is hope in the fact that fifty-five of the sixty-seven patients received distinctly better treatment than the average diabetic patient. Eleven of the patients received treatment from men who stand exceptionally high in the profession. It is true that over and over again patients deny that they carry out careful treatment, but I think it is seldom, though it is occasionally so, that one meets a patient with diabetes of long standing who has not consciously or unconsciously followed rational methods of care.

4. Heredity plays a considerable rôle among the group. Sixteen, or 25 per cent., of the sixty-three patients whose cases are available for statistics in this regard had parents, brothers or sisters, cousins or aunts with the disease. This percentage is probably somewhat higher than the percentage of heredity in diabetes, but not really so much greater than is often the case. Undoubtedly, heredity will play a greater rôle in diabetes as time goes on, but it may not attain greater significance. Accuracy of vital statistics and better physicians enter into this condition. Two cases in the heredity group are of especial significance because the disease developed at the ages of 15 and 17, respectively; in fact, these were the youngest patients in my group. Another of my patients with marked heredity developed diabetes at the age of 13 but lived not quite ten years.

All cases which have come to my attention of youthful patients with diabetes living for such long periods of time have been hereditary. The case of Schmitz, quoted by Naunyn, was hereditary. Naunyn's own famous cases, Nos. 124, 173 and 32 were all hereditary cases, and he refers on pages 96 and 97 of the second edition of his book on diabetes to other cases with long duration in which I find that heredity was manifest.

Von Noorden calls attention to the fact that heredity may be a favorable factor for the duration of diabetes, though occasionally unfavorable if the type in the progenitors has been especially severe.

5. The diabetes was extremely mild in five of my cases, and the quantity of sugar in the urine in these five cases was not far from 1 per cent. In one of these cases, acidosis was present following an operation for appendicitis. In several of the cases a small quantity of sugar was present in the urine presumably for some time before the disease broke out in full force. I suspect that many more such cases will be found in the future.

6. The favorable outcome in a considerable percentage of the cases can be attributed to the early detection of the disease. Many of the patients were physicians and several learned of the diabetes through life-insurance. Approximately one-fourth of the patients discovered their diabetes in this manner, and thus presumably began treatment early. The early detection of the disease, therefore, is one of the best methods for obtaining favorable results for treatment.

Naunyn especially urges the importance and the good results of early treatment. The time is probably not far distant, if not already here, when the question will be asked of the diabetic "How long did the diabetes exist before it was discovered and who was your physician?" We are familiar with the same questions in tuberculosis. Who would have thought ten years, or even five years ago, that it might reflect on a physician if one of his patients developed typhoid fever? In ten years to come we may be blamed for the development of some cases of diabetes.

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ABSTRACT OF DISCUSSION

DR. THEODORE C. JANEWAY, New York: Success in the treatment of diabetes mellitus depends entirely on minute attention to detail and on the ability of the physician to persuade the patient to undergo the necessary hardships, which, however, should be made as little irksome as possible. There must of necessity be cooperation on the part of the patient; unless you can convince your patient of your ability to help him, you will not get this needed cooperation.

The treatment of the ordinary cases of diabetes is within the powers of any physician who is willing to give a little time and study to the underlying principles. The management of severe cases of diabetes requires special experience. Dr. Joslin has emphasized the real value of profiting by what we have learned from experience, carefully studied, in the hopefulness that comes from known power to help our patients. The same principle holds good, for instance, in the use of digitalis in heart disease; the man who always uses it carefully, and only when it is indicated, can accomplish results, and avoid many failures. In his future use of digitalis then he will show a confidence which goes a great way in promoting a good effect on the patient. This holds good over the whole domain of practical medicine.

If we have learned to carry these diabetic patients along and improve at least one-quarter of all of them so that they can live ten years or more, I think that we have been given a valuable lesson. There is no one in the country who is in a better position than Dr. Joslin to give us this lesson with the statistics that he has, and the thoroughness with which he has gathered them. My personal experience with these cases of diabetes has not been as great as his. I think rather more of the long-lived ones that I have records of have shown obesity. Dr. Joslin's patients, however, have been chiefly among the American-born population, more of mine among the Hebrews. One patient illustrates a phase of the question occasionally seen, an elderly obese individual, now nearly 80 years of age, diabetic for about twenty years, who has disregarded most of the rules laid down for him but is still alive. He has survived an appendix abscess since 70. For the last six years his diabetes has been moderately severe. Too much should not be said about such cases, for the disregard of proper dietetic measures usually produces very definite effects in hastening the progress of diabetes. Such a case shows, however, that the elderly obese diabetic may live long even without good treatment.

DR. JOHN A. LICHTY, Pittsburgh: What was the percentage of these patients that Dr. Joslin has reported to the number of patients diabetic whom he has seen? An important point which I think should be emphasized, is the effect of the acute infections on these cases. Death in almost all my cases was due to some acute infection rather than because of the usually dreaded diabetic coma, such for instance as middle-ear disease, tonsillitis, pneumonia, pulmonary tuberculosis and other diseases which might be mentioned.

In looking over my case records a few weeks ago in preparation for a lecture to the students on the subject of diabetes mellitus, I found a point that impressed itself on me very much, and one that Dr. Joslin has brought out this morning, that these patients live longer than was ordinarily believed and longer than the text-books usually tell. One case in particular illustrates the hopefulness which should be entertained in regard to these cases. This patient was a young man, in the dangerous age, between 20 and 30, whose case was classed as acute, with a bad prognosis. He was eliminating 26 ounces of sugar during twenty-four hours. This man was gradually placed on a carbohydrate-free diet, and the amount of sugar fell gradually to three-fourths of an ounce per day. After two days' rest in bed the sugar entirely disappeared, and he slowly gained in weight. This case looks to be very hopeful. It illustrates what rest in addition to proper dietetics will do.

DR. G. W. MCCASKEY, Ft. Wayne, Ind.: I am strongly inclined to think that we have a tendency to take an altogether too hopeless view of the progressive tendencies of diabetes mellitus, and am firmly convinced that an intelligent and careful management of these patients will tend very largely to increase the number of those who live many years, and who make, under favorable conditions, what is a substantial recovery. While we do not know much of the real pathology of the disease, we may say that it is a more or less complete breakdown in the glycolytic function of the body. This function is very complex. Certainly it is dependent in part on the internal secretion of the pancreas and probably on the glycolytic ferment discovered by Cohnheim in the muscle juices. Other factors still may be operative although at present unknown.

What we should aim to do is to study this function in so far as its limitations are concerned and endeavor if possible to broaden them. I believe that this can be done to a great extent in a considerable number of cases. The first thing to do is to determine whether the patient with diabetes will continue to have glycosuria on a starch- and sugar-free diet. If he does, the case is essentially unfavorable and the patient cannot be expected to improve very much or perhaps even survive very long. If the sugar in the urine disappears on the withdrawal of carbohydrates, then intelligent supervision of the patient's dietary may accomplish very much. He cannot, of course, be kept aglycosuric by completely withholding carbohydrates indefinitely, as this is not practical; but by reducing the quantity as much as possible and at frequent intervals entirely withdrawing them and giving this complex function rest, we may improve its capacity and widen its limitations and in a certain group of cases the patient may ultimately become able to assimilate and metabolize an increasing quantity of starch without the production of glycosuria. A full recognition of these facts will enable us to be of vast service to some of these patients who otherwise may drift along steadily becoming worse as months and years go by. In short, it is not sufficient at all, nor does it discharge our duty to the patient simply to tell him to take less starch; the quantity that he can assimilate must be carefully worked out from time to time and the treatment which is, of course, principally dietetic, must be intelligently directed along the lines indicated.

DR. J. L. MILLER, Chicago: I would like to report two interesting cases. A woman had a glycosuria which had existed for a number of years; she developed an urticaria of very severe type which persisted for three or four months. Without any change in her diet or any special medication, the glycosuria disappeared. After the disappearance of the urticaria, however, the glycosuria returned.

The second patient was a woman, who passed 50 gm. of sugar a day. She was on a rigid diet. She had very severe uterine hemorrhages, and, as a result, was markedly anemic. A hysterectomy was performed. It was found that a carcinoma had developed on an old fibroid tumor. Several months later the patient returned and it was found that she was entirely free of sugar. To-day she is taking practically an unlimited amount of starch and is doing very well.

DR. LOUIS G. HEYN, Cincinnati: At von Noorden's clinic and at different sanatoriums to which I had access in Vienna, I was impressed with the control the physician had over his patient and the good results to the diabetic patient accruing from a hospital residence. Great stress is laid on the patient's residence in a hospital or sanatorium, an important step in gaining control of the patient. Of greater importance perhaps than the control of the patient is the facility which close observation affords of determining the carbohydrate tolerance. Estimations may thus be carried over a definite length of time daily. What also seemed important to me was the manner in which physicians impressed their patients with the seriousness of their condition and the fearlessness which the physician displayed in handling the situation. For instance, the presence of acetone and acid bodies was usually disregarded, unless the acetone estimate was over 5 gm. daily. Let me say again that I consider of paramount importance the residence of diabetic patients in hospitals or sanatoriums. Most of them will not be required to remain longer than a few weeks.

DR. ELLIOTT P. JOSLIN, Boston: One occasionally meets a patient who states that he has not had careful treatment, yet such a patient may live for a long period of time. I investigate such cases and usually find that such patients take much butter and cream and other fatty food and also change the character of their work. The head of a large life-insurance office told me that he had had diabetes for twenty years, and that he had never been treated for it. In reality, however, the diagnosis was made early and the patient being intelligent had followed a most careful diet all his life. I can report a case similar to that described by Dr. Miller. The patient had a very severe attack of diabetes; the glycosuria occurred in connection with a fibroid tumor of the uterus; when the fibroid was removed the glycosuria disappeared. I think that residence in a hospital should be but a short time, three weeks the maximum. When sent out, these individuals will be more willing to return for another period of treatment. They should be allowed to go about town and enjoy pleasures outside the institution. Rest for a week, however, often results in great benefit to them. The report of the case of urticaria occurring in the case of diabetes was extremely interesting, especially as it might throw some light on the etiology or on the treatment of this disease. There is no doubt also but that cases of diabetes in which tuberculosis is acquired require careful study; if tuberculosis develops in a diabetic patient, the diabetes usually recedes; just why I do not know.

Laboratory Typhoid Diagnosis.—Blood-cultures make possible an early and positive diagnosis. The typhoid bacilli can be recovered from the blood in a large percentage of cases as early as twenty-four hours after the onset of the illness. This is the most valuable aid in diagnosis during the first week, before the appearance of the Widal reaction. After the first week the percentage of successful blood-cultures take a decided drop. This method of examination is now even more of a necessity since the use of typhobacterin in the prophylaxis of typhoid fever. A positive Widal results quickly after the vaccination and persists for a varying period, making the agglutination reaction worthless in many cases.—Sledge in *Southern Med. Jour.*

SUCCESSFUL CULTIVATION OF MALARIAL PLASMODIA *

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NEW ORLEANS

In a former contribution[1] I first reported my success in cultivating *Plasmodium vivax, P. malariæ* and *P. falciparum;* and as much additional work has been completed since the appearance of that article, the present brief announcement of results to date is presented pending publication of the full technic and details.[2]

The work subsequent to that first described in the article above cited[1] was done in Central America in conjunction with Dr. Foster M. Johns on a research expedition equipped and sent to Panama by the Tulane School of Tropical Medicine and Hygiene.

In the course of this later work it was found that the malarial plasmodia can be grown in human serum, in Locke's fluid (from which calcium chlorid is omitted) and in human ascitic fluid. In the majority of cases it was found that dextrose must be added to the medium in order to secure growth of the parasites. The plasmodia grow in a thin layer near the top of the cell sediment, beneath which zone the parasites all die.

The parasites have been cultivated only in the red cells of human blood and are destroyed by the leukocytes as soon as they are liberated from the erythrocytes, and also by the serum, Locke's fluid, ascitic fluid, or, in fact, by any of the mediums experimented with.

Plasmodia develop readily in the red corpuscles, apparently digesting the substance of the corpuscles, and segmentation can be followed with great satisfaction in the cultures.

The most favorable temperature found for the cultivation of these protozoa is about 40 C. They will usually live at a lower temperature, but often will not grow, and as a rule will not multiply.

Positive cultures have been obtained from twenty-nine cases of estivo-autumnal malaria, six cases of tertian and one case of quartan. The cultures have been carried on as far as four generations from the parent culture and with proper attention to technic can doubtless be maintained indefinitely. Only the asexual cycle of the parasite has been observed in our cultures.[3]

It is hoped that those workers who are in a position to do so will confirm the work already done; those who are interested in the matter are referred to the full discussion.[2]

In conclusion I wish to thank the anonymous friend of the Tulane School of Tropical Medicine who, through the Dean of the Medical Department of Tulane University, contributed the fund which paid the expenses of the expedition; also the United Fruit Company which, through their manager, Mr. C. H. Ellis, furnished complimentary transportation for the members and apparatus of the party, and Colonel W. C. Gorgas, chief sanitary officer of the Canal Zone, with various members of his staff, who extended every help and courtesy during the expedition's stay in Panama.

4832 Carondelet Street.

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* Study 23, from the Laboratories of Tropical Medicine and Hygiene, under the direction of Creighton Wellman, Medical Department of the Tulane University of Louisiana.

1. Bass, C. C.: A New Conception of Immunity, THE JOURNAL A. M. A., Nov. 4, 1911, p. 1534.
2. A complete discussion will appear in the October number of the Journal of Experimental Medicine.
3. Cultures, preparations and apparatus illustrating the foregoing work will be exhibited at the International Congress on Hygiene and Demography to be held at Washington, September 23-28.

A ROUTINE METHOD OF OPENING THE HEART WITH CONSERVATION OF THE BUNDLE OF HIS AND THE SINO-AURICULAR NODE

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As it has become important to make detailed pathologic examination of those human hearts which have been studied clinically with the newer instruments (string-galvanometer, polygraph, etc.), it is advisable to have a routine method of opening hearts in such fashion that the specialized tissue is left intact for further study. The text-books direct one to connect the superior and the inferior vena cava with the scissors; but this procedure almost invariably results in cutting the sino-auricular node, one of the important structures which ought not to be injured.

DIRECTIONS FOR REMOVING AND OPENING THE HEART

The superior vena cava should be cut high up (an inch or more from its auricular mouth) so as to avoid the sino-auricular node. One should also not cut too close to the right auricle in detaching the heart from the lungs on the right side.

Right Side of the Heart.—After removal of the heart, insert the scissors into the opening of the inferior vena cava and cut the right auricular wall close to and parallel with the auriculoventricular groove, extending the incision to the apex of the auricular appendix (Incision 1, diagram). This incision avoids especially cutting along the line connecting the superior and inferior venæ cavæ; that is, it avoids the sulcus terminalis of His underneath which the sino-auricular node is located. Lay open the right auricle and inspect it and the tricuspid valve. Insert the scissors again into the inferior vena cava and cut along the right border of the ventricle to its end (Incision 2). Then, following the blood-stream, cut the right ventricle from near its end to and through the mass of fat which is at the base of the pulmonary artery, keeping well over toward the left side so as to pass between the left anterior and the posterior cusps of the pulmonary valve (Incision 3). In making this last incision, it is well to avoid bisection of the anterior papillary muscle, as the right branch of the auriculoventricular system passes directly from the interventricular septum to the anterior papillary muscle.

Left Side of the Heart.—In opening the left side of the heart, the usual incisions, following the course of the circulation, give a good exposure and do not injure the specialized tissues.

With the scissors connect the orifices of the pulmonary veins. Lay open the left auricle and inspect it and the mitral valve. Cut from the left auricle, through the mitral valve, between the two papillary muscles of the left ventricle, to the apex of the heart. From the apex make an incision, parallel with the interventricular septum and close to it, into and through the aorta.

One should not make slashes into the interauricular and interventricular septa as these may damage the conducting system. Incisions should, however, be made into the rest of the ventricular wall, first, to determine the gross characteristics of the musculature, and, second, to facilitate the penetration of the fixative.

FIXING AND PRESERVING THE HEART

For general histologic work the following method has proved very satisfactory:

1. Fix in Orth's solution (Formaldehyde-Mueller) thirty-six hours, preferably in a warm environment, and change the solution whenever it becomes dark.

2. Wash for at least forty-eight hours in running water until the drippings from the heart are no longer yellow.

3. Place in a sufficient quantity of 70 per cent. alcohol and store in this reagent until the pathologist is ready to undertake the laborious histologic work.

4. Or, instead of steps 1, 2 and 3, place directly into a 10 per cent. dilution of liquor formaldehydi.

One of the present problems in cardiac pathology is to correlate the clinical condition with the histologic findings. By observing the above method, an excellent gross view of the interior of the heart may be obtained

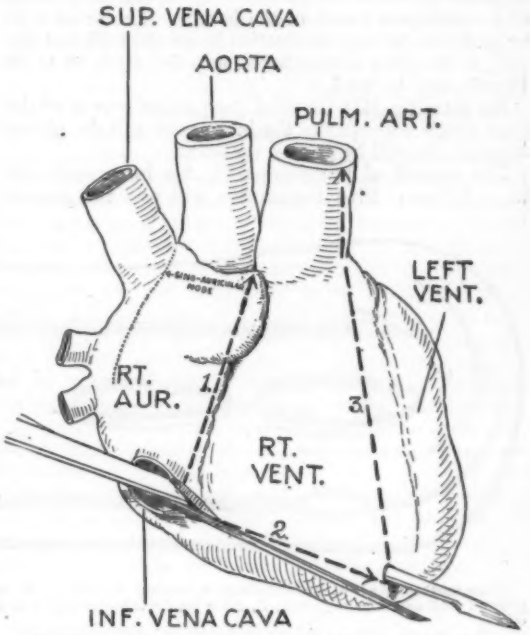

Diagram of a heart showing Incisions 1, 2 and 3 for opening the right side of the heart without injury of the sino-auricular node, which is represented diagrammatically by the fine dotted line.

and at the same time the material is not injured for further detailed study through the technic employed in removing, opening or preserving the specimen.

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DESCRIPTION OF A NEW URETHROTOME

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ST. LOUIS

A moment's consideration will make it clear that the ideal urethrotome should possess the following characteristics:

1. It should be applicable to all strictures of whatever caliber, down to those admitting only a filiform, and whether situated in the anterior or posterior urethra.

2. It should be provided with some sort of finder or mechanism for locating the exact points requiring incision before bringing the knife into action.

3. It should be so constructed as to permit the surgeon to pass his knife down to the seat of the stricture without damage to that portion of the urethra lying anterior to it.

4. It should be provided with some mechanism for informing the surgeon when he has completely divided the stricture in order that he may not do damage to that portion of the urethra lying posterior to it.

I wish to describe a new instrument which appears to meet all the conditions perfectly. It consists of:

A. A grooved staff similar to that of the Maisonneuve urethrotome, and tipped with a detachable woven filiform guide. The groove stops at the beginning of the curve.

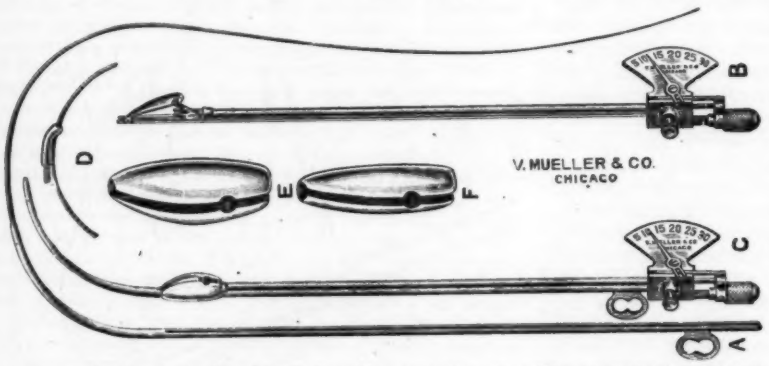
B. A cutting apparatus to be introduced along the groove of the staff and having a hinged knife which can be raised or lowered at the will of the operator by means of a mechanism found in the handle. The knife is to be protected during introduction by an olive (E and F), and, as the olive is detachable, any size from 19 to 32 French may be used.

An extra tip (D) tunneled for passage over a whalebone bougie accompanies the instrument and the advantages of this will be at once apparent.

The method of procedure with this instrument will be as follows: First the surgeon will pass the grooved staff down through the stricture; he will then hold it firmly by the little hand-grip between the thumb and index-finger of the left hand. Then with his right hand, he will pass the cutting apparatus, olive adjusted and knife lowered, down along the staff until he meets an obstruction. This will tell him that his olive lies directly against the face of the stricture, and that he may now proceed to elevate his knife. This done he will advance his cutting apparatus further until resistance ceases or becomes greatly diminished, when he will lower his knife again. Now he will advance his cutting apparatus further with the knife concealed, thus testing the entire urethra with his olive, and bringing his knife into action only when cicatricial tissue is encountered. He may enter the bladder if he chooses. The olives, being tapering, have no shoulder to catch at any point. Finally the cutting apparatus is to be withdrawn, as it was introduced, with the knife lowered and protected by the olive.

The surgeon may now exchange his olive for one of larger size and repeat his maneuvers, this time placing his incision somewhat laterally to the original one according to the method of Guiard. This he may do again and again, until he has brought the urethra up to such size as he may elect, and then and not till then will he remove the grooved staff.

It will be seen that with this instrument the surgeon is enabled to place his incisions with great accuracy, sparing absolutely the sound urethra and dividing beyond peradventure all strictured areas. The need of such an instrument has long been felt, and it is hoped that, now that this need is supplied, the operation of internal urethrotomy will rise to that popularity which its true worth deserves.



New urethrotome: A, grooved staff; B, cutting apparatus; C, cutting apparatus inserted into grooved staff and olive adjusted; D, extra tip for introduction over a whalebone bougie; E and F, olives.

THE RELATION OF THE PARATHYROID GLAND TO INFANTILE TETANY *

CLIFFORD G. GRULEE, M.D.
CHICAGO

The evidence for and against the causal relation between lesions of the parathyroid glands and spasmophilia or infantile tetany may come under three heads: clinical, pathologic and chemical. It should be borne in mind that lesions of the parathyroids have always been regarded only as predisposing factors—in other words, conditions that render the system more susceptible to the convulsive seizures, but that to produce such seizures some active factor, such as diarrhea, constipation, various infections, etc., are necessary. This narrows the subject down to the consideration of two questions: 1. Are lesions of the parathyroid in any way the cause of infantile tetany? 2. If we answer the first in the affirmative, is a disturbance of the parathyroid secretion necessary in order that spasmophilic attacks may occur?

From a clinical standpoint, we may bring evidence on only the first of these questions. It has long been known that total extirpation of the thyroid gland in adults is often followed by tetanic symptoms, and that such do not occur if the parathyroid glands are allowed to remain *in situ*. So far as I know, such operation has not been performed on an infant under 2 years of age, and hence we have no direct evidence that such symptoms would occur at this age. On the other hand, there is no reason to believe that the results on animals in this instance would differ materially from those on man. From personal experience in some experiments[1] recently undertaken, I am convinced that, though exceptions may occur, still we may state that the younger the animal, the shorter the period of life after removal of the parathyroids. So far as I have noted the symptoms of thyroidectomized (thyro-parathyroidectomized) dogs, they have simulated very closely those of infants affected with severe convulsive seizures. In two ways, however, they may be said to differ. In the first place, during the convulsive seizures they do not seem to lose consciousness. Our inability to estimate the psychic state in animals under such conditions, and the usually short duration of

* Read before a joint meeting of the Chicago Medical Society and the South Side Branch, May 15, 1912.

1. In the Department of Experimental Medicine, University of Chicago.

the convulsion suggest that our observations may be wrong. The rapid, deep, pauseless respiration can hardly be considered as altogether a hyperpnea following an apnea. Here, again, our attitude must be determined by our judgment and not by any direct evidence. In one respect the thyroidectomized animal reacts in exactly the same way as does the spasmophilic infant—the electrical irritability is distinctly increased.

It has long been known that removal of the parathyroid glands in animals brought about these convulsive seizures, but it remained for Erdheim[2] and Yanase[3] to produce definite evidence of the presence of lesions of these glands in cases of infantile tetany. Yanase examined the parathyroids in fifty infants up to 15 months of age which had had an increased electrical irritability before death, and in every instance found lesions; while in those infants in which no increased electrical irritability was found, no lesions of the parathyroids were present. The lesions found were the results of hemorrhage which had probably occurred at the time of birth. These findings have been confirmed by Strada,[4] and in large part by Iovane and Vaglio,[5] but the reports of Jörgenson,[6] Grosser and Betke[7] and Auerbach[8] speak strongly against the regular association of lesions of the parathyroid gland and infantile tetany. It may be said, however, that in the majority of cases so far reported the remains of hemorrhages in the parathyroid glands have been observed. It is quite conceivable, too, that a disturbance of the secretion of the parathyroid gland may occur without the occurrence of a lesion which is recognizable as such by our present methods.

For many years infantile tetany has been theoretically connected with a deficiency in the retention of calcium. The intimate clinical relations between spasmophilia and rachitis and the latter disease and calcium bone deposit perhaps suggested this theory. The brain calcium estimations of Quest[9] and the experiments of Rosenstern[10] tend to confirm this theory, while the metabolic experiments of von Cybulski,[11] of Schabad,[12] and of Haskins and Gerstenberger[13] tend to disprove it. MacCallum and Voegtlin[14] found a negative calcium balance in parathyroidectomized dogs, while Cooke[15] obtained directly opposite results. In experimenting with babies suffering with convulsions and other spasmophilic manifestations[16] several years ago I was convinced that while a food containing milk, either whole or skimmed, rather increased than decreased the convulsive tendency if the whey were removed, there seemed to be in all cases a distinct tendency to improvement, provided the convulsive seizures were not so severe that sedatives were necessary, and even in these cases the reaction to sedatives was more prompt and complete. The whey contains, in addition to water, protein, milk-sugar and some salts. Since much protein is contained in the curd, and since milk-sugar and other carbohydrates have proved to be non-irritating in this condition, it was thought that the salts might be to blame. Most of the calcium is held in the curd, so that when the whey is removed the salts thrown out consist largely of sodium and potassium. About this time Reiss[17] called attention to the antagonism between calcium and magnesium on the one hand, and sodium and potassium on the other, in respect to the irritability of the nervous system, and suggested that some like disturbance of salt metabolism might be the active cause in spasmophilia.

In order to get some definite data on this subject, I decided to undertake some metabolic experiments on young dogs before and after thyroidectomy.[1] It was possible to complete these in four of twelve young dogs. In the first two complete experiments there was seen a distinct retention of sodium, with no distinct change in the calcium, after removal of the thyroid. In the last two, one showed a distinct excretion of calcium, with slight excretion of sodium, while in the other, although the sodium retention was practically the same before and after operation, the calcium showed a slightly negative balance. The magnesium and potassium in both instances showed a distinct loss.

On the strength of these results one might conclude that there was, after total thyroidectomy in young dogs, a disturbance of salt metabolism, such as Reiss suggests. One must be cautious, however, in interpreting such findings. Injections intraperitoneally of normal solutions of sodium and calcium salts, both before and after operation, did not apparently either delay or hasten death. I think it fair to conclude that the findings here set down, though not necessarily the result of parathyroid removal, at least are strongly suggestive, since, so far as is known, the acute changes following complete thyroidectomy are due to removal of the parathyroids. (The work was not undertaken primarily to study the action of the parathyroids, but only the convulsive condition caused by their removal.)

To complete this work, clinical experiments are now in progress and in at least one case the addition of sodium chlorid and potassium chlorid to the food, in quantities equal to the amount of whey, corresponding to the curds used, has produced a distinct increase of electrical irritability.

We have, then, no absolute evidence that lesions of the parathyroids are responsible for the cases of infantile tetany. We can say, however, that removal of the parathyroids in adults and animals produces a condition which, if not identical, closely simulates spasmophilia. In a majority of cases of infantile tetany there is found some lesion of the parathyroid glands. And there is strong reason to believe that the same disturbance of salt metabolism occurs in the tetany of animals produced by thyroidectomy as in the spasmophilia of infants.

In answer to the two questions propounded earlier in this paper, we may then say that it is altogether likely that lesions of the parathyroid are causal factors in infantile tetany, but that it is in no way proved that such lesions must exist in all cases.

122 South Michigan Avenue.

2. Erdheim: Mitt. a. d. Grenzgeb. d. Med. u. Chir., 1906.
3. Yanase: Jahrb. f. Kinderh., 1908, lxvii (E. H.), 57.
4. Strada: Riv. di Clin. Ped., December, 1909 (Ref. Jahrb. f. Kinderh., 1910, lxxi, 511).
5. Iovane and Vaglio: La Ped., 1010, xviii, 709 (2d Series, viii).
6. Jörgenson: Monatschr. f. Kinderh., 1911, x, 154.
7. Grosser and Betke: Ztschr. f. Kinderh., 1911, i, 458.
8. Auerbach: Jahrb. f. Kinderh., 1911, lxxiii, 193.
9. Quest: Jahrb. f. Kinderh., 1905, lxi, 114.
10. Rosenstern: Jahrb. f. Kinderh., 1910, lxxii, 154.
11. Von Cybulski: Monatschr. f. Kinderh., 1906, v, 409.
12. Schabad: Monatschr. f. Kinderh., 1910, ix (Orig.), 25.
13. Haskins and Gerstenberger: Jour. Exper. Med., 1911, xiii, No. 3.
14. MacCallum and Voegtlin: Jour. Exper. Med., 1909, xi, 118.
15. Cooke: Jour. Exper. Med., 1910, xii, 45.
16. Grulee, C. G.: Arch. Pediat., 1912, xxix, 24.
17. Reiss: Ztschr. f. Kinderh., 1911, iii, 1.

Anesthetizing Children.—Never begin the anesthetic until the surgeon is ready to operate. This is a thing that I wish to impress not only on anesthetists, but on the general operator. I have seen many patients who have been kept under anesthesia anywhere from five to thirty minutes before the operator was ready to begin.—Kilmer in *Arch. Pediat.*

CESAREAN SECTION DONE UNDER SPINAL ANESTHESIA FOR ECLAMPSIA

REPORT OF THREE CASES *

JAMES P. MARSH, M.D.

Attending Surgeon, Samaritan Hospital, and Consulting Surgeon, Leonard Hospital

TROY, N. Y.

CASE 1.—Mrs. E. W. L., aged 32, was admitted to the Samaritan Hospital, Troy, N. Y., Nov. 28, 1911, having been referred to my service by Dr. Thurman Hull.

About five years previously, she had two miscarriages and with both there were convulsive attacks, although she is said to have had no albumin in the urine at that time. The day before admission to the hospital, when between seven and eight months pregnant, she was taken suddenly with convulsive attacks, and thereafter had a convulsion about every half hour until her admission, at which time the bowels were moving involuntarily and there was a small amount of blood coming from the vagina. The pulse at 70 was of a fairly good quality. The temperature was 99.3 F. The urine was said to contain a large quantity of albumin. The skin was pale and very dry. The pupils were mid-wide and did not respond to light. The tongue was clean. The lungs were normal. The apex of the heart was in normal position, but the sounds were weak, indistinct and irregular. The liver dulness was normal. The abdomen was full, rounded and universally dull. The fundus of the uterus was 2 inches below the ensiform cartilage and a pregnancy was easily diagnosticated. The small parts were to the right, dorsum to the left, head in the pelvis. There were neither fetal heart sounds nor fetal movements.

The os was dilated so as to take the tips of two fingers, was hard and did not respond to manual dilatation. The patient was semiconscious and there was a paralysis of the right side of the face and body.

At 2 p. m. she was given 10 minims of Norwood's tincture of veratrum viride, and poultices of digitalis leaves were applied to the lumbar spine. At 3:20 p. m. she was given 10 grains of theobromin sodium salicylate. The specific gravity of the urine was 1.024, reaction acid, albumin in large quantity, granular and hyaline casts, and red blood cells.

After a number of convulsive attacks, about midnight the patient went into a heavy stupor which was broken by periods of active delirium. There were no convulsions and she voided involuntarily.

At 5 p. m. November 29, under spinal anesthesia, with the use of stovain according to the formula of Dr. Babcock of Philadelphia, through a median section, a hysterotomy, the extraction of a dead female child and a complete supravaginal hysterectomy were done. The uterus contained several fibroids of various sizes.

The next day the patient was restless, vomited several times and voided urine involuntarily. The right side of the body and face were still paralyzed. The convalescence was smooth. Surgically speaking, the patient made a complete and quick recovery. Immediately after the operation the urine began to clear so that by December 17 it was free of albumin. The paralysis in the right leg had improved when the patient left the hospital Jan. 20, 1912. On July 4, 1912, it was reported that she had regained very good use of her right leg, and that the arm motions seemed to be improving rapidly.

Because of the low pulse-rate and the presence of a right-sided hemiplegia, although there was an undoubted albuminuria with casts and red blood cells, the diagnosis of uremic eclampsia may be open to a reasonable doubt, but all who saw this case with me felt that the doing of cesarean section under spinal anesthesia was the proper procedure.

CASE 2.—Mrs. M. C., aged 27, patient of Dr. J. H. Flynn, was nearing the end of her first pregnancy when on Dec. 30, 1911, at about 7 p. m., suddenly and without any premonition, she was seized with eclamptic convulsions, which continued during that night without the appearance of labor pains. On the morning of December 31, Dr. Flynn introduced a catheter into the uterus for the purpose of inducing labor. As the day wore on and labor did not supervene, and as the patient was semiconscious and pulmonary edema had developed, Dr. Flynn had her removed to the Leonard Hospital, Troy, and asked me to see the patient with him.

On admission her temperature was 102 F. and pulse 136. She was semiconscious, cyanotic and was having frequent convulsions. There was marked pulmonary edema. This condition continued up to the time of my operation on the evening of December 31.

Under spinal anesthesia, the same as in the first case, I performed the cesarean section, extracting a child which lived four hours. As the catheter was found in the uterine cavity, between the membranes and the uterine wall, it was thought that sepsis might occur and a complete hysterectomy was done.

The patient made a good surgical recovery, but convalescence was complicated by a mammary abscess where repeated hypodermoclysis had been given. The patient was finally discharged from the hospital in good condition Jan. 27, 1912. The albumin, however, never entirely cleared up.

CASE 3.—Mrs. C. McC., when between eight and nine months pregnant, was taken, Jan. 27, 1912, at about 10:30 p. m. with uremic convulsions. All day she had had headache and was restless, but there had been no signs of labor. After the first eclamptic seizure, convulsions followed each other frequently. Dr. Winship, of Eagle Mills, was called to attend the patient and sent her in to my service in the Samaritan Hospital Jan. 28, 1912. On admission the patient was comatose and was having frequent convulsions.

The family history was good. The patient began to menstruate at 11 years of age and had always been regular; she was married at 19 and had had two children, both of whom were living; previous to the birth of the second child she had considerable "bloating," and one year previously she had had scarlet fever and was very ill for two weeks. She was a well-nourished and well-developed woman. The skin was pale and dry; the face was expressionless and edematous, and the pupils were small. The tongue was bleeding from teeth wounds and much swollen. The apex of the heart was displaced outward, but there were no murmurs. The liver dulness was normal and the spleen was not palpable. The abdomen showed a normal pregnancy of about eight and one-half months with the head in the left occipito-anterior position. The kidneys were not palpable, and the genital organs were edematous. The urine was said to be scanty and highly albuminous. A diagnosis of eclampsia was made.

Under spinal anesthesia, a classical cesarean section was performed, with the same technic as in the previous cases. A living female child was delivered. The operation was slow, taking one hour and five minutes, most of this time being used in carefully closing the wound in the uterus.

For several days the patient had some rise in temperature and at one time it went up to 102 F., with a pulse of 110, but on the seventeenth day it reached normal and so remained. She was discharged from the hospital, well, Feb. 22, 1912.

On January 28, the day of admission this patient's urine was acid, specific gravity, 1.006, and contained a large quantity of albumin, red blood cells, leukocytes and granular casts. On February 20 it was acid, specific gravity 1.016, and did not contain any albumin.

These three cases belong to a class in which previously I have always lost both mother and child.

In the early years of my practice, about twenty-five years ago, I used to treat the patients medically and all died. Then I did manual dilatation, and *accouchement forcé* and they all died. Then I turned to cesarean section under ether and was equally unfortunate, and so I had come to look on the cases as being necessarily

* Read at the annual meeting of the Greene County Medical Society, New York, July 9, 1912.

fatal whatever might be done. I wish no one to be mistaken as to the class of cases about which I am talking. There is a vast difference in the chances of a woman taken with eclampsia when labor is present or has progressed more or less, and the chances of one taken with eclampsia in the eighth or ninth month of pregnancy all signs of labor being absent. It is of this latter class that I am speaking. All of these three women were *in extremis* and I am sure that with any other mode of anesthesia they would have been lost.

There was much doubt in my mind, before doing my first operation, as to whether or not the uterus would contract promptly and efficiently under this form of anesthesia, but in all of the cases the contraction was excellent and just as firm as when I have done cesarean section under ether.

Professor Babcock of Philadelphia writes me that he is quite sure that these cesarean sections are the first in the United States to have been done under spinal anesthesia; he thinks that they are the first to be reported from any country.

1828 Fifth Avenue.

SUBCLAVIAN ANEURYSM WITH SUCCESSFUL ENDO-ANEURYSMORRHAPHY

EARLE DRENNEN, M.D., BIRMINGHAM, ALA.

Patient.—R. W., a boiler-maker, aged 38, was admitted to St. Vincent's Hospital March 12, 1912. He was pulseless and in extreme shock from loss of blood consequent on a stab wound just beneath the middle of the left clavicle, inflicted a few minutes before. By packing the wound and applying pressure over it, hemorrhage was checked. The shock was combated by intravenous infusion and other routine measures. Four days later, signs of aneurysm were first discovered on auscultating near the stab wound, which region was perceptibly bulging. Expansile pulsation and a thrill were evident to palpation. The left radial pulse was slighly weaker than that of the right side. He was kept in bed with rest and suitable diet for three weeks. During this time, he complained of considerable pain over the tumor and shooting down the arm. Beginning on the eighth day, powerful compression was applied over and just above the tumor three times daily, for a period of fifteen minutes each time. The pressure employed above the clavicle stilled the pulsation and bruit in the sac; likewise the radial pulse was obliterated. Following this procedure, the patient experienced complete relief from his pain. At the end of three weeks he refused operation, and left the hospital. Two weeks later he returned, complaining of much pain over the tumor, which had visibly increased in size. He was pale and very weak. Operation was decided on at once. His family and past history were negative. He had never had syphilis.

Operation.—The patient was anesthetized and an incision 3 inches in length was made about half an inch above the clavicle and parallel to it. The subclavian artery was exposed and a temporary tape ligature passed around it and tied at the point where the artery emerged from behind the scalenus anticus muscle. Next an incision 4 inches in length was made along the lower border of the clavicle, its middle corresponding to the bulging of the tumor. The sac was quickly opened and furious hemorrhage occurred. This was controlled with great difficulty by pressure, but in spite of all efforts blood kept welling up in such quantities that nothing could be done. Finally an aneurysm needle, threaded with a stout, heavy ligature, was passed around the artery, beneath the clavicle just proximal to the sac, the wounds above and below the clavicle having been made freely into one large wound. By a lifting and squeezing action with this ligature, all hemorrhage from the proximal opening into the sac was stopped. The bleeding from the distal opening was controlled by pressure, and a stitch taken across its lumen; when pulled on, this stitch effectually stopped all bleeding. It could now be seen that the aneurysm involved the third portion of the left subclavian artery, that it was the size of a small hen's egg and contained considerable fibrin, clots, etc., and that there were two openings about three-eighths of an inch in diameter, and a similar distance apart. No groove between the two could be demonstrated. The detritus was removed from the sac. The openings were then closed with interrupted chromic catgut stitches, four stitches being taken in the lower, and five in the upper. The temporary ligatures proximal to the sac were now removed; the sac remained dry. The sac was then closed with a running Lembert suture. The radial pulse, while quite weak on the left side, immediately after the operation, was easily felt, and the next day was equal in size and strength to that of its fellow.

Postoperative History.—Healing occurred by first intention, and convalescence was uneventful. The patient was kept in bed three weeks and then allowed to go about. Since the operation the left arm and side have been normal in all respects. The patient returned to his arduous work eight weeks after the operation. When he was seen three weeks later, there was no tumor, no bruit and no pulsation under the scar. The left radial pulse was similar in all respects to that on the right side. The patient feels well, and has gained 25 pounds. Although careful search has been made of the literature, no record of a successful aneurysmorrhaphy of the subclavian artery has been found. It is my belief that it was possible in this instance only because all the tissues involved were healthy. The most impressive thing about the operation was that ligature, above the sac, apparently had no effect on checking hemorrhage from the opened sac. It is possible also that the compression employed in this case accentuated an already free collateral circulation.

A CASE OF SPOROTRICHOSIS IN NORTH DAKOTA: PROBABLE INFECTION FROM GOPHERS

G. M. OLSON, M.D., FARGO, N. DAK.

A few cases of sporotrichosis have been reported in North Dakota. Probably many cases are not recognized. Diagnosis is easy if this disease is kept in mind. Potassium iodid occasions a prompt recovery. Ordinary surgical treatment is of little avail.

Patient.—G. A., a man, aged 19. Five weeks before examination, while at Tappen, N. Dak., a lump like a "boil" appeared on the dorsum of the right hand. No pain, tenderness, fever or other constitutional symptoms were present. A few days later subcutaneous nodules began to appear on the back of the right forearm. On examination there was an ulcer about 1 inch in diameter on the dorsum of the right hand. The ulcer was raised and contained thick gelatinous pus. There was no pain, tenderness, fever or headache. Three nodules on the back of the right forearm were similar to that on the hand except that there was no ulceration. There was a distal nodule about one-half inch in diameter, raised and purple-red in color. Other nodules were smaller. Proximal nodules were wholly subcutaneous and not adherent to the skin.

Culture.—On blood-serum a number of snowy white colonies appeared in three or four days. Two days later the colonies were brown. A smear from the culture showed a branching mycelium with oval or ovoid spores.

Source of Infection.—Patient was on a farm at Tappen, N. Dak., but states that none of the cows or horses had any sores. Many gophers that he killed and handled had sores similar to that which later appeared on his hand. As sporotrichosis is present among rats, it is probable that gophers may be infected with this disease.

Treatment.—Tincture of iodin was applied locally and potassium iodid, 10 minims, was given three times a day. In ten days the ulcer had nearly healed and the nodules had almost disappeared.

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[For other information see second page following reading matter]

SATURDAY, SEPTEMBER 21, 1912

THE EYE, EAR, NOSE AND THROAT NUMBER

This issue of THE JOURNAL is a special Eye, Ear, Nose and Throat Number. It is in two parts: Part 1 is the regular issue; Part 2 contains the articles, and the discussions thereon, presented at the Atlantic City Session, 1912, in the Section on Ophthalmology and in the Section on Laryngology, Otology and Rhinology.

PHYSIOLOGIC FEATURES OF HIGH ALTITUDES

There are manifold relations between climate and man which can justly lay claim to scientific interest. Some of them have agricultural or anthropologic bearings, whereas the physician is especially concerned with those features which relate to hygiene or therapy. The underlying problems have been studied in various ways in the past, either by observation under the conditions which actually obtain in nature, or in the laboratory where an attempt is made to imitate and experimentally control individual factors such as temperature, humidity and barometric pressure. Within the past decade investigation in each of these directions has received a noteworthy impetus, so that there is available at present a considerable body of useful scientific literature relating directly to the subject of climate. In a way, laboratory studies like those conducted in the respiration chamber have served to supplement or confirm the evidence collected in the open air.

As happens not infrequently in scientific work, the improvement in apparatus and the refinement of experimental technic, along with an accumulation of healthy criticism, have modified some of the earlier views regarding the effects of certain climatic factors. It may be helpful to take a retrospect of the advance in knowledge which a decade of investigation has brought in respect to the physiology of altitude.[1] A few years ago it was confidently stated that removal to higher altitudes was attended with a decided increase in the number of red corpuscles and the percentage of hemoglobin in the blood. This result was looked on as a compensatory response on the part of the organism, whereby the possible inability of the body to satisfy its oxygen needs in the presence of a lowered barometric pressure was averted. With improved technic in hematologic work, whereby especially the more rapid evaporation of blood samples at higher altitudes is avoided, the tendency has been for the earlier reported extreme increases in the oxygen-carrying blood constituents to disappear. The reports of more recent years, such as those made by Bürker and his colleagues,[2] show at best only a comparatively small increase amounting to 4 or 5 per cent. at altitudes of five or six thousand feet. The same moderate results have likewise been noted lately for much higher altitudes. There is no displacement of the usual relations between the number of corpuscles and the content of hemoglobin and iron in the blood, contrary to the conditions formerly alleged to exist at lowered barometric pressures. Cohnheim has essayed to attribute to a concentration of the blood at high altitudes the almost insignificant increases which have undeniably been found by competent observers. The climate is always dry and evaporation proceeds rapidly. As a result individuals lose water more readily than at lower levels, and the losses become more pronounced and conspicuous in smaller animals, such as those which commonly serve the purposes of experiment. If this explanation is tenable, the increases in corpuscles or hemoglobin content occasionally found are in no wise the expression of a lack of oxygen; they are rather the outcome of the increased evaporation under the newer conditions of climate. Thereby one reputed response of the organism is no longer tenable as a therapeutic hypothesis.

The influence of altitude on respiration has, of course, always been the subject of speculation, especially in its relation to mountain sickness. Two factors come into play. As the altitude increases, a lowered tension of oxygen in the alveolar air results, and there is a diminished tension of carbon dioxid. The rate of respiration may be variously influenced in different circumstances; but the depth of respiration is almost invariably increased. This, of itself, not only facilitates the oxygen supply, but also increases the elimination of carbon dioxid. These effects are reflected in the content of the two gases in the blood. Since Haldane's classic investigations on the regulation of respiration by the carbon dioxid tension in the blood it has become apparent why respiration may become so markedly modified under these conditions. Mosso and his followers were always inclined to attribute to the acapnia a very important rôle in the physiologic disturbances noted in high altitudes. Undoubtedly acapnia is a factor to be reckoned with, but the primary and fundamental feature is the lowered oxygen pressure to which the other consequences are in reality secondary.

Whether the pulmonary exchange of gases proceeds according to well-known physical laws at high altitudes, or there is an active secretion of oxygen by the pulmo-

1. For a very recent review of this subject see Cohnheim, O.: Physiologie des Alpinismus, II. Ergebn. d. Physiol., 1912, xii, 628; also Anglo-American Expedition to Pike's Peak, THE JOURNAL A. M. A., Aug. 10, 1912, p. 449.

2. See editorial, Altitude and Blood-Corpuscles, THE JOURNAL A. M. A., February 3, p. 344.

nary epithelium into the blood, as has lately been maintained, remains to be determined.[3] In addition to these purely respiratory influences there is evidence of an increased combustion in the body under conditions of lowered oxygen tension, and there are undeniable influences on nitrogenous metabolism. Effects of this type still await an explanation. Unquestionably very high altitudes—and perhaps those moderately high—are detrimental to human health, but the great body of clinical climatologic literature still needs to be sifted and studied in the light of modern physiology before an adequate understanding of reputed and unquestioned curative virtues of mountain resorts can be attained.

GRADUATES OF SECTARIAN SCHOOLS IN THE GOVERNMENT SERVICES

In the discussion over the creation of a national department of health, the statement has frequently been made that the three medical services of the government, namely, the Medical Department of the Army, the Medical Corps of the Navy, and the Public Health Service, were exclusively manned by graduates of so-called "regular schools," and that such a condition was due to a plot on the part of the "regular" medical profession and the American Medical Association to exercise a "monopoly." The fact is that the American Medical Association, fully appreciating that such action would be beyond its province, never has attempted to influence an appointment to one of these services.

In order to secure official statements of the present personnel of the government services, letters were recently addressed to the surgeons-general of the three services, asking whether there were graduates of sectarian schools in the service at present and whether there was any provision in the law which prevented any graduate of any medical school from being appointed to a position in the service. In reply, Colonel J. R. Kean of the surgeon-general's office of the Army Medical Department writes:

> Our requirements are that a candidate for admission to the medical corps shall be a graduate of a reputable medical school and shall pass the examination. This does not exclude sectarians if they are well grounded in scientific medicine. There is, I think, one graduate of an eclectic school in the active list of the Medical Reserve Corps and two graduates of homeopathic schools.

Surgeon-General Charles F. Stokes of the United States Navy writes:

> There are at present medical officers of the Navy on the active list who are graduates of homeopathic colleges. There is no reason why a graduate of a homeopathic or eclectic medical college who has had a year's experience in a general hospital on successfully qualifying physically, professionally and morally, should not receive an appointment to the Medical Corps of the United States Navy.

Assistant Surgeon-General J. W. Kerr of the Public Health Service writes:

> One of our active assistant surgeons is a homeopathic graduate, and another is of the eclectic school. One of our passed assistant surgeons is a graduate both of a homeopathic school and of a "regular" school. There is no reason why a graduate of medicine from any reputable school could not be admitted into the service provided he was a gentleman and had passed the required examinations.

These official statements are sufficient refutation of the charge that graduates of sectarian schools are not eligible to appointment in the government services.

The scientific and educational qualifications required for admission to the services are the same for all applicants whatever the particular "school" to which they may belong. The examinations to ascertain these qualifications test the candidate's training in the fundamental medical sciences; they are practical ones; that is, they do not consist simply of written questions and written answers, but of laboratory and clinical demonstration of the knowledge of the applicant on the various subjects; they demand practical knowledge and not merely theoretical — book — knowledge. If but few graduates of sectarian schools gain admission to the government services, this is due to one of two reasons: Either such graduates do not apply, or else they are not qualified to pass the examinations. The latter is the more probable explanation, for it is well known that, with few exceptions, the sectarian colleges are too liberal in their requirements for admission and are weak in both their teaching staff and their laboratory equipment, so that they do not give the practical training demanded by the government. Investigation of those who succeed in entering the service will reveal the fact that it is not alone the sectarian schools that are not represented, or represented only in small numbers, but also the low-grade schools generally—including the so-called "regular," as well as the sectarian.

The truth, as all who are conversant with the facts are aware, is that few graduates of sectarian schools are able to secure appointments for the same reason that few graduates of low-grade "regular" schools are appointed —namely, that the equipment and character of instruction at these schools are not sufficiently high to prepare the graduates so that they can comply with the standard required by the government service. It is not a matter of "schools" or "sects"; it is a question of a working knowledge of the sciences fundamental to modern medicine.

DIET FACTORS AND THE SKIN

Although the skin is the seat of manifold disturbances which are undoubtedly associated with alterations in nutrition, it can scarcely be said that there is developed, at the present day, anything which might be designated as a chemical physiology of this tissue. Something is known, in truth, of the secretions of the skin, their composition and the conditions under which they are manifested; but what positive knowledge is available in respect to the chemical make-up of this organ or protective tissue which takes no mean part in the defenses

3. See editorial, The Anglo-American Expedition to Pike's Peak, THE JOURNAL A. M. A., August 10, p. 449.

against our environment? When it is stated that the skin is largely albuminoid in character the essential known fact is told. Yet there must obviously be other factors concerned in those sensitive responses which the integument is capable of displaying at times and under suitable provocation. Every practitioner has to deal with stubborn affections of the skin which often resist equally the mildest or the most drastic treatment. It is easy to classify the phenomena into disturbances of nutritive or nervous origin, respectively; but little is gained thereby for any fundamental appreciation of the etiology of these manifestations. We need to know not only that the skin becomes sensitive under certain conditions of diet or drugging, but also why this reactivity develops and of what organic changes it is the expression.[1]

One clue to the situation appears to be found in the disturbances that may arise in the inorganic or "mineral" metabolism of the body. We have taken occasion repeatedly to emphasize the fact that profound alterations in the dietary involving radical shifts in the types of foods consumed may be attended by considerable changes in the so-called salt metabolism. A marked loss of mineral nutrients may ensue, for example; or, what is equally significant, the inorganic components of the organism may experience a depletion of the store of some individual element, like calcium or the alkalies, leading to a rearrangement or incoordination of the ions present. Acid-forming foods may lead to a shift in the usual proportions of the elements which constitute the inorganic environment of the living cells.

Dr. Luithlen of Vienna has undertaken to ascertain whether the inorganic constituents of the skin show any changes in composition incident to conspicuous upsets in the general inorganic metabolism. Studying the proportions of calcium, magnesium, sodium and potassium present in the integument under radical changes of diet or after administration of acids or the decalcifying oxalates, he has found that distinct chemical alterations can be detected. Sometimes it is an altered content of all the bases that is brought to light by his analyses,[2] and sometimes a disturbance in the relative proportions of the individual ions. Here at length is some tangible evidence of a coincidence of general alterations in nutrition with changes in the actual chemical texture of the skin.

The next logical step, that of investigating the possible correlation of the chemically altered skin with a specific reactivity or sensitiveness of the integument under these new conditions, has also been undertaken by the same author.[3] He has studied the comparative response of the skin to typical irritants under a variety of experimental conditions in which altered inorganic composition of the tissue had been shown to occur. Thus there were observed to be wide differences in the reaction to croton oil or turpentine and camphor. Animals subjected to acid intoxication or oxalate administration proved to be extremely susceptible. On the other hand, administration of lime in the form of calcium chlorid distinctly checked the exudations. The bearing of these facts in the management of certain types of dermatitis becomes apparent.

These "diatheses" could, moreover, be induced by suitable diet changes as well as by specific chemical treatment. In rabbits a diet of oats, notably deficient in calcium and acid-forming in character, was far more potent in producing skin sensitiveness than was a mixed diet with green vegetables. It is apparent that increased loss of alkalies from the organism is the forerunner of a state of irritability which can be overcome by the administration of lime. The researches of Jacques Loeb have prepared us to expect such antagonisms among the inorganic constituents of the organism. Healthy nutrition, whether of the body as a whole or of some organ like the skin, depends on the maintenance of a delicate adjustment or equilibrium of the inorganic elements. Dermatology may well profit by taking into account the possible function of these factors in the interrelations of nutrition and the conditions of the skin.

1. Compare Bulkley, L. Duncan: Diet and Hygiene in Diseases of the Skin, THE JOURNAL A. M. A., Aug. 17, 1912, p. 535.
2. Luithlen, F.: Ueber Chemie der Haut, Wien. klin. Wchnschr. 1912, No. 18.
3. Luithlen, F.: Tierversuche über Hautreaktion, Wien. klin. Wchnschr., 1912, No. 20.

LEAD-POISONING AND ENCEPHALOPATHY

In certain cases of lead-poisoning recently mentioned in THE JOURNAL,[1] apparently the chief source of absorption was by inspiration of air permeated with lead-dust. It has by no means been determined just what relation the atrium of absorption of lead bears to the clinical form of poisoning which develops. Absorption through the digestive tract and skin seems to result more commonly in colic and neuritis, while there is some ground for supposing that absorption from inspiration of lead-laden dust is more liable to be followed by the so-called lead encephalopathy. This is a comparatively rare form of lead-poisoning in which the symptoms appear first or chiefly in the cranial nerves. The affection usually appears in the laryngeal, pharyngeal, facial, optic and ocular nerves. Concomitant central symptoms are vertigo, headache and mental apathy.

That the medical corps of the Navy is alive to its responsibility in the matter is shown by Medical Inspector E. R. Stitt,[2] who describes three cases of lead encephalopathy in the naval hospital at Canacao, P. I. All three had developed in men engaged in scaling or chipping off red-lead paint in a compartment of the torpedo-boat destroyer *Chauncey*. One patient was admitted under the diagnosis of enteritis with a developing psychosis, probably dementia præcox. The second patient was admitted in a stuporous condition suspected

1. Lead-Poisoning in Battle-Ships, THE JOURNAL A. M. A. August 3, p. 375.
2. Stitt, E. R.: Lead-Poisoning and Encephalopathy from Inhalation of Red-Lead Dust, U. S. Naval Med. Bull., April, 1912.

to have been caused by estivo-autumnal malaria. The third patient was admitted under the diagnosis of lead-poisoning with epileptiform convulsions, and was the only one with a clear history of exposure to lead.

The correct diagnosis in the first two cases and a confirmation of the diagnosis in the third was made by finding a punctate basophilia in the red blood-cells. This basophilia consisted of large irregular or splotchy spots, taking a basic stain, in the red cells. Stitt made a series of experiments in rabbits to determine the diagnostic value of basophilic stippling in plumbism. The experiments indicated that the sign was of little value, and this conclusion is supported by the findings of Oliver[3] in Scotland, who found the sign negative in 40 per cent. of his cases. Stitt, however, states that the diagnosis in his own three cases was made on the presence of this stippling, and quotes P. Schnidt to the effect that when basophilic granules are present to the number of 100 per million of the red blood-cells, it is pathognomonic of lead-poisoning. Stitt considers that malarial stippling can be differentiated from plumbic stippling by the tendency in postmalarial anemia for the bluish dots to be small and round, instead of large, irregular and splotchy.

A series of three cases is too small to justify the conclusion that the absorption of lead through the respiratory atrium is more liable to induce lead encephalopathy than its introduction by ingestion or by the skin; but the point needs further elucidation and observation.

The presence of basophilic stippling in red cells is of real aid in the diagnosis of plumbism. This emphasizes the value of a blood examination in every case in which the diagnosis is obscure or doubtful. A blood-smear can be made, stained and examined microscopically in a few minutes, and often this simple procedure will throw unexpected light on the clinical picture.

PHILOSOPHY, SCIENCE AND MEDICINE

"No philosophy evolved from the inner consciousness of man has ever done man half the good that has been secured to him by the discovery of the agents of infection. In fact, no discovery in science has failed to better the lot of man." With these significant words Prof. V. C. Vaughan of the University of Michigan replies, in an admirable address[4] that merits wide distribution, to the strictures of those modern writers who charge science with being essentially materialistic in its aims and scope. These philosophers, evolving what they assume to be an exalted idealism out of their inner self, are all too frequently in apparent ignorance of the real contributions which science has made alike to knowledge and to human happiness. Confident that the "inner life" contributes some superior sort of moral worth to the individual, they fail to grasp the significance of the forces about us and the biologic tendencies within us which determine in largest measure what constitutes human welfare and social and racial betterment.

Scientific men (and these necessarily include medical men) build their idealism solidly up from the ground; they do not suspend it precariously from star-beams. "The foundation-stone of my philosophy," writes Professor Vaughan, "is the doctrine of evolution." He points out that we deal here not with inscrutable forces which man cannot know, cannot modify, cannot study, but rather with potent factors that call for the best effort in behalf of the race. What higher incentive can there be, for example, to keep one's self clean morally and physically than the facts derived from the study of heredity? And when the added undeniable influence of environment in the modification and improvement of the species is taken into account, it is apparent that every effort to improve the conditions under which men live is based on motives quite as dignified and worth while as the musings of the philosopher who claims to cultivate the good and beautiful for its own sake.

It is timely to refute the charges of materialism which are now and then preferred against medicine. As Vaughan points out, our knowledge of the spread of infection is the strongest factor in the social movements of the day. Disease still takes a heavy toll. Ignorance and deep-seated prejudice still are often found retarding progress in unexpected quarters. The philosophy of science concerns itself with this world and this life and reaches every condition. It is a truth which will bear insistence and repetition that the dicta of science are a high, noble and powerful incentive to righteousness. "To widen the domain of knowledge, be it ever so little, to abate disease, to lessen pain and suffering, to decrease the burden of poverty, to brighten and ennoble the lives of others, to harness the forces of Nature and make them subservient to man's will and contributory to his happiness . . . to make man more considerate of his fellow, to appreciate and perform his duties—these are some of the things that science has done and is doing."

THE ARTIFICIAL FERTILIZATION OF EGGS

With recent progress in the application of physico-chemical studies to the problems of biology a little light has begun to penetrate the veil of mystery that surrounds the phenomena of the fertilization of eggs. Artificial parthenogenesis — the process by which an egg starts on the road to development without the aid of spermatozoa — has long been known as an experimental possibility; and the experiments of Jacques Loeb and others have given some insight into various chemical methods by which this independent developmental change can be initiated or controlled. The process of fertilization is composed of two distinct phases. In one of these there is an alteration or destruction of the sur-

3. Oliver, Sir Thomas: Bulletin of the Bureau of Labor, July, 1911.

4. Vaughan, V. C.: The Philosophy of the Scientist, Science, Aug. 23, p. 225.

face layer of the egg which may or may not result in the formation of a fertilization membrane. Many methods can be applied to induce the superficial cytolysis which starts the development of the egg. Unless, however, a second treatment is applied, the eggs tend to perish during the further development. In the case of some of the lower forms a brief treatment with hypertonic sea-water will suffice to remedy the sickly condition of the eggs at this stage and allow practically normal development.

Much interest centers in the fact that the spermatozoon also appears to cause the development of the egg by carrying into it two agencies, one of which is a cytolytic substance, or to use a recent designation, a lysin, which causes the membrane formation. T. Brailsford Robertson[1] of the University of California has succeeded in extracting from the sperm of an invertebrate a substance which is capable of fertilizing the eggs of that species and acts as a powerful agglutinating and cytolyzing agent on them. This illustrates the biochemical turn of modern investigation and the departure from the old "vitalistic" attitude. It now appears that these lysins are by no means specific for the spermatozoon but are found in the cells and blood of animals. The blood of cattle, for example, contains them;[2] and there is some ground for believing that the fertilizing agent in spermatozoa is identical with that in blood-serums. Loeb has explained the fact that the blood of each female does not cause the parthenogenetic development of its own eggs, by the theory that, while the lysins contained in the blood of foreign species can diffuse with comparative ease into the egg and cells of an animal, the lysins contained in its own blood are prevented from such a diffusion. This difficulty can be overcome by physicochemical methods so that the eggs will become permeable to the fertilizing agent.

Obviously, if the underlying principles here illustrated have any broader significance and do not merely lead to some unique and abnormal phenomenon in an occasional species — in other words, if the lysin theory of fertilization is to be regarded as more generally applicable — the field of observation must be widened. Loeb and Wasteneys[3] have been engaged at the Rockefeller Institute in ascertaining whether the mechanism of fertilization referred to finds an exemplification in the artificial parthenogenesis of the eggs of all animals by foreign blood. The experiments thus far reported show that it is possible, with the aid of foreign blood-serum, to induce parthenogenetic segmentation and development into larvæ, in eggs which had been found refractory to the other methods of artificial parthenogenesis. These facts have more than a tentative importance, and further experimentation along this line will be awaited with interest.

1. Robertson, T. B.: The Extraction of a Substance from the Sperm of a Sea-Urchin *(Strongylocentrotus purpuratus)* Which Will Fertilize the Eggs of That Species, Jour. Biol. Chem., 1912, xii, 1.
2. Compare Robertson, T. B.: The Non-Enzymatic Character of Oocytin (Oocytase), Jour. Biol. Chem., 1912, xii, 163; also xi, 339.
3. Loeb, J., and Wasteneys, H.: Fertilization of the Eggs of Various Invertebrates by Ox-Serum, Science, Aug. 23, 1912.

Current Comment

THE RAT-CATCHER

With the plague at our doors the ancient if not specially honored profession of the rat-catcher may come again into vogue, at least until science and invention have solved the problem of eliminating the rat altogether. In the congested and insanitary cities of centuries ago it is easy to imagine the utility of such a functionary. We believe that the profession still exists in most of our larger cities, its representative—a sort of non-criminal member of the underworld—claiming special skill or mysterious professional secrets in his way of working. It is not to be doubted that such individuals are better acquainted than the rest of the community with the ways of the pestilent rodents, and the success of some has passed into tradition as little short of marvelous. The usefulness of the profession should make it more respectable at this time than it has been considered in the past. Boards of health and sanitary authorities might well utilize this class of workers as a temporary means of warding off a threatening crisis like the impending epidemic of plague. Catching the rat, to be sure, like swatting the fly, is a lame and unsatisfactory expedient compared with the method of building and starving both out of existence; but so long as such an anachronism as the rat exists, there is no inconsistency in fighting it with a medieval institution like the rat-catcher.

RECTAL FEEDING AND ABSORPTION FROM THE LARGE INTESTINE

The growing acquaintance with the preliminary processes involved in the preparation of the food protein as a suitable pabulum for the tissues, during gastro-intestinal digestion, has encouraged the belief among physiologists that the protein is practically completely disintegrated into very simple chemical fragments before absorption and utilization take place. The acceptance of this view has brought with it, as a logical consequence, the question as to whether ordinary protein solutions, such as have in the past been administered rectally in the form of nutrient enemas, in reality contribute any nitrogenous components to the organism. If it is true that the proteins, as such, fail to traverse the intestinal wall with readiness, it by no means follows at once that they are lost for the purposes of nutrition. It is possible that the injected materials may be transported antiperistaltically to those higher regions of the bowel where digestive enzymes are still available to convert them into assimilable products, although this supposition finds little support in the facts of experiment. Bacterial intervention in the large intestine may likewise serve to duplicate the normal digestive changes, but this can scarcely be looked on as a beneficent type of preparatory alimentary process. But even if we assume the existence of such indirect methods of rendering proteins administered by rectum available to the body, it is obviously preferable to furnish the nitrogenous nutrients in some form immediately usable in the intestine. For this reason we have heretofore already suggested the employment of completely digested food materials for the purposes of rectal alimentation. The

rational acceptance of this advice depends, however, on the actual demonstration of the absorption of such products from the regions of the intestine under discussion. Not only must it be made evident that chemical compounds can be absorbed from the large intestine—a fact well known in the case of water, drugs and certain products of putrefaction—but the degree of absorption must be extensive enough to have some adequate quantitative significance for the purposes of nutrition. The evidence here desired is now forthcoming. Recent researches by Folin and Denis[1] leave no doubt that amino-acids like glycocoll and alanin, which may be cited as types of digestion fragments, readily enter the blood-stream from the lumen of the lower bowel. They can be detected in the circulation as they are carried to the tissues in accord with the view elaborated in a previous notice.[2]

PERTUSSIS

In 1905 Bordet and Gengou discovered in the viscid exudate coughed up in pertussis a coccobacillus which stains with weak solutions of fuchsin, is Gram-negative, and grows with some difficulty on ordinary mediums, but more easily on humanized mediums. Bordet injected children exposed to whooping-cough with a vaccine of this organism and, as all developed unusually severe cases, he concluded that a profound negative phase had been produced. By injections of this bacillus Klimenco[3] and Fraenkel[4] were able to produce what seemed like typical pertussis in monkeys. Klimenco also believed that he had produced the disease in young puppies, but these results have not generally been accepted. More recently it has been shown by Inabo[5] that injection of this bacillus in an ape gave rise to a typical whooping-cough, an incubation period of thirteen days being followed by a catarrhal stage of two days, a paroxysmal stage of twenty-four days and a stage of decline lasting nineteen days. After a total period of forty-two days the ape seemed entirely well. The bacillus used was found in seventy-eight of eighty-one cases and was cultivated in sixty-eight of seventy-seven cases in which cultivation was attempted. In eighteen cases of other respiratory diseases the organism was not found. Inoculations of dogs gave negative results. This would seem to be fairly conclusive as to the association of the coccobacillus of Bordet-Gengou with pertussis. On this basis Ladd[6] has prepared a vaccine from the organism in the usual manner, growing the organism on blood mediums, collecting the growth and counting by the Wright method, killing by heat for one hour at 60 C., and testing the sterility by inoculation of culture mediums and of guinea-pigs. The vaccine has been used in a number of cases with results not particularly striking, but nevertheless of great interest. Between injections five days intervened, the author preferring to act cautiously in view of inexperience in vaccine therapy. No harmful results occurred in any instance. In one or two cases there was marked improvement immediately following the first injection. Practically all patients recovered within five weeks after the beginning of the treatment, usually in the third week of the disease. To Ladd this seems encouraging, as he has seen many severe cases of several months' duration. We have, then, good ground for further work in this field. To the various institutions for the treatment of diseases of infancy there is afforded an opportunity for investigation along lines which may prove of great significance in our treatment of whooping-cough.

1. Folin, O., and Denis, W.: Absorption From the Large Intestine, Jour. Biol. Chem., 1912, xii, 253.
2. A New Theory of Protein Metabolism, THE JOURNAL A. M. A., Sept. 14, p. 880.
3. Klimenco: Centralbl. f. Bakteriol., 1908, xlviii, 64.
4. Fraenkel: München. med. Wchnschr., 1908, lv, 1683.
5. Inabo: Ztschr. f. Kinderh., June 15, 1912.
6. Ladd: Arch. Pediat., 1912, xxix, 581.

BLOOD-CORPUSCLES, OLD AND YOUNG

Precisely as epithelial cells are regenerated when they have been damaged or destroyed, so, it is well known, the red blood-cells can be replaced after they have been lost through hemorrhage or disintegration by various hemolytic agencies. The renewal of the cellular elements of the blood in different types of anemia is a fact of common experience. Is there any physiologic difference, however, between the young and the old red corpuscles? The morphologist at times can discern structural peculiarities in the erythrocytes which may lead him to ascribe developmental changes to them. But even under conditions in which no visible inequalities or perversions of structure are discernible there is chemical evidence that "new" blood is unlike "old" blood. Morawitz[1] and his pupils have noted an increased consumption of oxygen by the blood in anemia in contrast with the blood of healthy persons; and this feature has even been used to estimate the degree of regeneration which is taking place. Dr. Snapper[2] of Gröningen, Holland, has used the resistance of the red corpuscles of different bloods as an index of physiologic variations. Comparing the behavior of the corpuscles from blood after hemorrhage with that obtained beforehand, he has observed that the newly formed cells are less easily hemolyzed than the older ones. The young corpuscles formed in the reparation of the anemia are more resistant in this sense. There is, furthermore, some evidence that new red cells can be formed from the components of older ones which have suffered destruction in the vascular system itself. In such cases the resistance of the cells to hypotonic salt solutions may increase despite the lack of change in the number of the cells present, and if one may judge by the phenomena here noted, the reparation of blood-cells may quite exceed the actual loss experienced. This is in accord with a familiar principle in pathology. Loss of blood occasions not merely a restitution for what has been removed, but also acts as a stimulus to the hematopoietic system whereby there are formed far more than enough new cells to replace the loss.

1. Morawitz: Arch. f. exper. Path. u. Pharmakol., lx. Itami: Ibid., lxii.
2. Snapper, J.: Vergleichende Untersuchungen über junge und alte rote Blutkörperchen, Biochem. Ztschr., 1912, xliii, 256.

The Supreme Value of Health.—Finally, I have one advice which is of very great importance. You are to consider that health is a thing to be attended to continually, as the very highest of all temporal things. There is no kind of an achievement equal to perfect health. What to it are nuggets or millions?—Thomas Carlyle.

TEXASALT: THE PROFIT-SHARING INSULT IN A NEW GUISE

The so-called profit-sharing plan of introducing nostrums to the medical profession still flourishes. The usual method in such cases is to offer the physician a bonus for prescribing the nostrum. A modification of this scheme is offered by the Texawater Company of New York City. This concern markets a product which it calls Texasalt and which it assures physicians is "Nature's surest cure for rheumatism and all other ailments due to too much uric acid in one's system." The Texawater Company has conceived the idea of working the county medical societies to introduce this product. Samples of this company's circular letter sent to secretaries of county medical societies have been sent to THE JOURNAL with comments, of which the following are typical:

"After reading THE JOURNAL for several years with great profit to myself I have been impressed with the magnitude and difficulties of the campaign of THE JOURNAL against fraudulent proprietaries. I knew that some manufacturers had a low opinion of the profession but the inclosed letter surprises me as an example of colossal 'nerve'—T. Avery Rogers, M.D., Plattsburgh, N. Y."

"This looks like a lovely good thing—but I haven't the nerve to present this letter to our local county society, fearing that the friends of Sal-Hepatica, et cetera, might take umbrage. However, while we are boosting the sales of these nostrums why not throw our noble influence on the side of the firm that philanthropically offers to 'divvy' the spoils?—W. B."

The Texawater Company's letter is too long to reproduce in full but the gist of the proposition is this: The company is capitalized at $25,000 "divided in equal shares of $100 each." One-half of the capital stock — 125 shares — is to be set aside "for sale to medical societies, whose members will agree to introduce Texasalt among their friends and patrons."

"Any society with a membership of fifty or more, can easily influence the sale of enough Texasalt, through local druggists, to pay for a share of stock, during the first month."

As always, in such cases, the public gets the worst of the bargain for, to quote again:

"The retail price of Texasalt is $1.00 per bottle; of this sum the retailer, the society and this company receive 25 cents each, while the remaining quarter covers the cost of the product."

Which means, of course, that the public is to be fooled into paying a dollar a bottle for a simple saline that has no more curative virtue than five cents' worth of Epsom salts, and the local medical society is to get a "rake-off" of twenty-five cents on the deal. If a pedler should call at the house of a physician and make a proposition similar to that made by the Texawater Company, the medical man would probably kick him down stairs. When the thing is done through the instrumentality of the United States mail, however, it provokes nothing stronger than a shrug of the shoulders and the consignment of the offer to the waste-paper basket. The reason that such insulting propositions are occasionally made by nostrum exploiters is not that there are a large number of medical men who will listen to them but that there are too many physicians who will not administer the rebuke that such offers deserve.

Medical News

ALABAMA

Medical Scholarships Awarded.—The Board of Revenue on September 2 awarded scholarships in the Birmingham Medical College to Roy Hudnall and Wharten McPherson, Birmingham, and a scholarship in the University of Alabama, Mobile, to Alfred A. Meeks of Birmingham.

Colored Professional Men Hold Meeting.—The Alabama Medical, Dental and Pharmaceutical Association, which held its annual meeting in Tuskegee the last week in August, has arranged to meet in Opelika in August, next year. The following officers were elected: president, Dr. L. U. Goin, Birmingham; secretary, E. T. Belsaw, Mobile, and treasurer, Dr. J. W. Darden, Opelika.

Tuberculosis Notes.—The Montgomery Antituberculosis League has completed five new cottages at the Fresh Air Camp which are now ready for occupancy. Two of these cottages are reserved for pay patients.——The opening of a tuberculosis hospital for convicts at the state penitentiary, Wetumpka, was celebrated July 4 with a barbecue. The hospital cost $35,000 and was constructed entirely by convict labor.

FLORIDA

New Hospital.—A charter has been granted for a new hospital to be built in Lakeland. The officers of the hospital association are C. J. Memminger, president; Dr. B. H. Maynard, secretary, and Dr. W. R. Groover, treasurer.

Personal.—Drs. R. R. Sullivan, C. W. Love and William M. Bevis have been appointed members of the Board of Health of Lakeland.——Dr. H. R. Mills, in temporary charge of the State Bacteriologic Laboratory, Pensacola, returned to his duties in the office of the State Board of Health, Jacksonville, September 1.——Dr. H. A. Murphy, St. Petersburg, is reported to be seriously ill in a sanatorium at Olney, Ill.——Dr. Abram D. Williams and family, Jacksonville, are taking a trip through the Pacific states and Alaska.——Dr. Howard S. Holloway, Jacksonville, has been appointed pathologist and Dr. A. E. Conter, Apalachicola, assistant physician at the Florida Hospital for the Insane, Chattahoochee.——Dr. A. E. Conter, Chattahoochee, has been commissioned Captain M. C., N. G. Fla.——Dr. F. F. Ferris, Apalachicola, has returned from an extensive trip through the North and West.——Dr. J. M. Spence, Sumatra, was recently operated on for perirenal sarcoma at Rochester, Minn.

ILLINOIS

Poliomyelitis at LeRoy.—Dr. J. C. Westervelt, Shelbyville, of the State Board of Health, has gone to LeRoy to investigate an epidemic of infantile paralysis. Thirteen cases have been reported.

Deplores Publicity.—Christian County Medical Society at its September meeting adopted resolutions requesting the newspapers of the county to refrain from using the names of physicians of the county in connection with their cases.

Municipal Tuberculosis Hospital.—The Belleville Municipal Hospital for the treatment of tuberculosis will be opened early in October. It is situated on a farm three miles south of the city. The building now on the site will be used, and tents will also be put up as required.

Personal.—Dr. Frances P. Chapman has been appointed bacteriologist of the Oak Park department of health.——Galesburg Medical Society gave a complimentary banquet September 4 to Dr. L. R. Ryan, who is about to leave Galesburg to make his home in California.——The Bi-County Medical Association (Iroquois-Ford) gave a banquet in Gilman, September 3, in honor of Dr. Thomas N. Boue, Loda, a charter member of the association.

Chicago

Personal.—Dr. Frederick Tice is slowly convalescing after an attack of appendicitis for which an operation was performed, August 6.——Drs. Joseph Welfeld and David Horovitz have returned from Europe.

Foreign Physicians to Visit Chicago.—As outlined in General News, August 24 and 31, a party under the auspices of the German Central Committee for Physicians' Study Travel will visit Chicago September 29-30, and will be entertained by the local profession at a dinner at the Hotel La Salle.

New Building for Hospital.—A new building to cost $40,000 will be erected on the site of the Chicago Lying-In Hospital

at Vincennes Avenue and Fifty-First Street. The new building will accommodate twenty-two free patients, twenty-one half-pay patients and twenty-one full-pay patients. The new building is largely due to the efforts of the Mothers Aid, which was organized in 1904 to promote the best interests of the Chicago Lying-In Hospital and Dispensary in its work for educational, civic and philanthropic purposes, and to cooperate with other organizations whenever it seems advisable.

INDIANA

Dispensary Asks Increased Appropriation.—Dr. Charles P. Emerson, dean of the Indiana School of Medicine, Indianapolis, has urged on the mayor of that city that the allowance for the City Dispensary be increased from $12,000 to $18,000.

New Hospital for Gary.—The Gary Commercial Club has raised a fund of $36,550 for the benefit of Mercy Hospital in that city. A hospital to cost $100,000 will be built in the tenement district and will be conducted by the Sisters of St. Francis.

Negro Physicians Meet.—The fourth annual meeting of the Indiana Association of Negro Physicians, Dentists and Pharmacists was held in Indianapolis, September 5, and the following officers were elected: president, Dr. A. H. Wilson, Indianapolis; vice-president, Dr. C. A. Martin, Muncie, and secretary-treasurer, Dr. H. W. Armistead, Indianapolis.

Free Typhoid Serum.—The Indianapolis Board of Health has voted to supply typhoid serum free to all applicants. This has been done to prevent the annual fall occurrence of typhoid fever. A special bulletin concerning the disease has been issued by Dr. J. N. Hurty, State Health Commissioner, as 125 deaths from typhoid fever occurred in Indiana in August.

Hospital Notes.—Plans are said to have been completed for the Robert W. Long Hospital which is to be connected with the Indiana University School of Medicine. It is expected that the hospital will be ready to receive patients early in January.——The Indianapolis City Board of Health has decided to have two ward units for the new city hospital constructed immediately and has called for bids.

Personal.—Dr. J. P. Simonds, city bacteriologist, has resigned and has assumed his duties as professor of preventive medicine in the University of Texas, Galveston.——Dr. Klore W. Hidy, Indianapolis, has been placed in charge of the rabies work of the State Board of Health.——Dr. A. H. Kalbfleisch was seriously injured by being thrown from an automobile at Erie, September 5.——Dr. A. C. Yoder, Goshen, has been appointed president of the Elkhart County Board of Charities.

IOWA

Personal.—Dr. M. A. Beach, Stratford, has recovered from an operation recently performed and has resumed practice.——Dr. Ira C. Brown, Fort Lawton, was slightly injured by the overturning of his automobile, August 27.

Honor Departing Colleague.—The Ida County Medical Society gave a banquet August 19 in honor of Dr. M. R. Karterman, Idagrove, for five years president of the society, who leaves soon to reside in Western Washington. At the close of the banquet Dr. Karterman was presented, on behalf of the society, with a gold watch, suitably engraved.

LOUISIANA

New Officers.—Attakapas Clinical Society at New Iberia: president, Dr. John D. Hunter, Rayne; secretary-treasurer, Dr. Lambert O. Clark, Lafayette.

Leprosy.—George Jacquin, formerly of Gretna, who escaped from the leper colony in Iberville Parish several years ago, has been discovered in a shanty boat on Bayou Barataria.——Three cases of leprosy have been reported from Acadia Parish and the health officer is endeavoring to have them sent to the Lepers' Home in Eastern Louisiana.

Personal.—Dr. W. H. Seeman, New Orleans, has been appointed bacteriologist of the city board of health, vice Dr. Paul E. Archinard, deceased.——The dispensary and office of Dr. Maurice Bateman, near Franklinton, were burned September 7.——An unsuccessful attempt was made on September 4 to set fire to the home of Dr. Theodore Engelbach, Grand Isle.——Dr. G. C. Chandler, president of the Shreveport Board of Health, is ill with malaria.

Health Train on Trip.—Dr. Oscar Dowling, Shreveport, president of the State Board of Health, started on his annual trip with his health train, September 15. He will go through the Southwest and will reach Washington in time for the International Congress on Hygiene and Demography, reaching New Orleans on the return trip about October 2. The train will also carry a corps of six lecturers, Drs. Beverly Smith, Franklin, T. T. Tarlton, Grand Coteau, Herman Oechsner, New Orleans, G. W. Gaines, Tallulah, Thomas A. Roy, Mansura, B. A. Ledbetter, New Orleans and E. S. Kelly, New Orleans, secretary of the board.

MARYLAND

Typhoid.—Six cases of typhoid fever have occurred at the Industrial Home for Colored Girls at Milvale.——There are thirty-three persons ill with typhoid fever at Towson.

Tag Day in Cumberland.—On Tag Day, September 4, in Cumberland more than $1,300 was realized for the anti-tuberculosis society. The funds will be used for the establishment of a tuberculosis sanatorium.

Nurses' Home Presented.—A nurses' home has been presented to the City Hospital of Frederick by Mrs. Georgia Simmons. The building will be sixty-four by forty-one feet and will adjoin the hospital.

Personal.—Dr. Francis E. Harrington, health officer of Cumberland, was seriously burned by an explosion of a gas tank in the laboratory of the City Hall, September 10.——Dr. J. E. Pitznogle, Hagerstown, has resigned as health officer of Washington County.——Dr. Edward N. Brush, Towson, has returned from Europe.

Baltimore

Colonial Dames Endow Room.—The Margaret Brent room has been opened at the Hospital for the Women of Maryland. It is a gift of the Maryland Society of Colonial Dames of America.

Lecture-Room Equipped.—Mrs. John B. Thomas has equipped at the University of Maryland a lecture-room in memory of her father, the late Dr. James H. Harris, who died two years ago.

Psychiatric Clinic Almost Ready.—The Phipps Psychiatric Clinic is so far advanced that it is expected it will be ready to receive patients by January 1 next. It will be under the direction of Dr. Adolph Meyer. The clinic is the result of gifts from Mr. Henry Phipps of Pittsburgh, amounting to $750,000.

Personal.—Dr. and Mrs. G. Milton Linthicum have returned from a thousand-mile automobile trip through the eastern states.——Dr. J. A. Seligman underwent operation at the Hebrew Hospital, recently, and is reported to be improving.——Major W. Guy Townsend, M. C., N. G. Md., surgeon of the Fourth Infantry, has resigned.——Dr. Benjamin Newhouse, resident pathologist at the Hebrew Hospital, has been appointed head resident surgeon of the Emergency Hospital, Washington, D. C.——Dr. W. DeForest Olmstead was operated on at the Maryland General Hospital, September 14.——Dr. Sydney Wallenstern has resigned as assistant superintendent of the Sydenham Hospital.

MINNESOTA

Isolation Hospital at Biwabik.—Plans have been prepared for a contagious disease hospital to cost $10,000, to be erected at Biwabik.

New Open-Air Schools.—The Board of Education of Minneapolis has planned to open two new open-air schools in Columbia and Glenwood Parks and this action has been endorsed by the park board.

Approves Tuberculosis Ward.—At a joint meeting of the St. Paul Common Council Conference Committee of the County Commissioners, September 10, it was voted that the city appropriate its share of the $75,000 required to build a tuberculosis ward in connection with the City and County Hospital.

Personal.—Dr. Edmond Lalonde, St. Paul, was thrown from his automobile, September 6, and sustained severe injuries to the hand.——Dr. C. C. Pratt, bacteriologist in charge of the Mankato Branch Laboratory of the State Board of Health, has been elected health commissioner of Mankato, vice Dr. A. E. Somer, resigned.

Hospital Liable for Injury.—Judge Cant of Duluth, is said to have refused to set aside a personal injury verdict given to a woman who suffered the loss of a hand in the laundry mangle while employed at St. Luke's Hospital. The institution had asked that the verdict be set aside on the ground that it is a charitable organization and exempt from liability.

Biggs Favors Reorganized Health Department.—In a report made by Dr. Herman Biggs, health officer of New York City, at the request of the Civic and Commerce Association of Minneapolis, the following recommendations are made: The reor-

ganization of the health department; the creation of a public health board with authority to make and enforce ordinances affecting public health; the appointing of a health commissioner by the mayor; an allowance of $25,000 annually for school inspection; civil service for all health department employees; organization of a small health board with legislative repeal and executive powers; more nurses to look after home tuberculosis patients; control of contagious diseases and facilities for treatment of such diseases by the health department; tuberculosis sanatorium under the direction of the department; campaign against infant mortality under the health board auspices; modernization of the milk ordinance and the removal of 17,000 outdoor privy vaults.

NEVADA

State Association Meeting.—The Nevada State Medical Association will hold its ninth annual meeting at Reno, October 8-10, under the presidency of Dr. Benjamin F. Cunningham, Reno. The house of delegates convenes on Thursday, October 10, at 1 p. m. During the meeting Dr. O. P. Ophuls, San Francisco, will deliver an address on "Modern Medicine, Its Present Status and Use for the Future."

Personal.—Drs. M. A. Robison and B. F. Cunningham, Reno, have been appointed by the governor members of Gov. Colquitt's committee to draft bills to present to congress relative to the conversion of military reservations and forts into federal sanatoriums, etc. Gov. Colquitt's plan is to utilize all army posts of the south and southwest as sanatoriums for the treatment of sufferers from tuberculosis.

NEW MEXICO

New Hospital for Roswell.—Plans are being made for the establishment of a protestant hospital in Roswell to be ready to receive patients this winter.

Personal.—Dr. William Porter Mills has succeeded Dr. H. M. Smith, both of East Las Vegas, as superintendent of the New Mexico Hospital for the Insane, Las Vegas.——Dr. Fred M. Bishop, Santa Fe, sailed for Europe, September 11.

NEW YORK

New Tuberculosis Hospital.—The new Tompkins County Tuberculosis Hospital, Taughannock Falls, with a capacity of sixteen patients, will be ready for occupancy in a few days. Dr. Isaac W. Brewer, Fort Niagara, has been appointed director of the institution.

Personal.—In a collision between his touring car and a taxicab, Dr. J. W. Bayliss, Buffalo, sustained severe injuries. ——Dr. and Mrs. C. W. Hoyt, Rochester, have sailed for Europe.——Dr. and Mrs. Amos T. Baker, Riverdale, have sailed for Europe.

Demands Legacy for Hospital.—The authorities of St. Joseph's Hospital, Syracuse, have filed a petition in the surrogate's court asking that the executrix of the will of the late Dr. Henry D. Didama be required to show why the clause which leaves $5,000 to the hospital should not be paid.

Board for Feeble-Minded and Defectives.—The State Board of Examiners for Feeble-Minded Criminals and other Defectives, created to prevent procreation among that class, held its first meeting in Albany, September 4, and elected Dr. Lemon Thompson, Glens Falls, president, and Dr. Charles H. Andrews, Buffalo, secretary.

Gifts to Norwich Hospital.—The directors of the Norwich Hospital Association announce that the hospital will be opened about October 1. The private rooms and wards are to be furnished entirely by the various societies and organizations of the village. Dr. Joseph D. Bryant, New York City, has donated a valuable set of surgical instruments to the hospital and the Norwich Nurses' Association has equipped the operating-room.

Contagious Diseases During July.—The July report of the State Department of Health shows that there is an increase in typhoid fever throughout the state, but a 50 per cent. decrease in both scarlet fever and measles. There is a slight increase in the number of cases of small-pox and in the cases of tuberculosis reported. There is a remarkable decrease in the number of cases of diphtheria. There have been no deaths due to tetanus following injuries received on the Fourth of July.

Medical Care for Inmates of Prisons.—Colonel Joseph F. Scott, superintendent of prisons, believing that it is important that the prisoners of the state should have sound bodies if they are to be cured of their criminal tendencies, is prepared to put into practice a plan for their treatment. He proposes to subject every prisoner arriving at a state prison or reformatory to a thorough physical examination. Defects of hearing, vision or other physical impairment that can be remedied by medical or surgical skill will receive treatment by specialists. Those who are victims of the drink habit will receive special treatment directed to the cure of the habit.

Infantile Paralysis in Buffalo.—Reports show that there have been a total of 220 cases of infantile paralysis since the epidemic started a few months ago. There have been twenty-six deaths and 60 per cent. of the survivors have been permanently crippled. Dr. John Frank Fraser of the Rockefeller Institute of Medical Research has been in Buffalo for the purpose of fighting the disease, but on account of the appearance of the disease in New York has returned to that city.

New York City

Rockefeller Institute Appointments.—The board of scientific directors of the Rockefeller Institute has made the following appointments: Michael Heidelberger, fellow in chemistry; Linda Bartels Lange, fellow in pathology; Florentine Mediglreccanu, assistant resident physician.

Endowment Fund Completed.—It is reported that a few months ago the University and Bellevue Hospital Medical College received from Mrs. Helen Hartley Jenkins the sum of $25,000, which completes the $100,000 endowment fund for the Marcellus Hartley chair of medicine.

Health Department Wants More Money.—The budget of the Department of Health for the coming year asks for an allowance of $3,086,599, an increase of $1,367,921 over the appropriation for this year. The reason for this increase is for the establishment of new positions and to increase the salaries of present employees of the department.

Steamship Quarantine.—The Italian steamer *Amerika*, from Genoa, was held in quarantine, September 11, because of the discovery of a case of small-pox in the steerage. The patient was taken to Swinburne Island for treatment and later the steamer was disinfected and 574 of the steerage passengers were sent to Hoffman Island for observation.

Degrees Conferred by Fordham College.—Honorary degrees were conferred on five scientists by the Fordham University September 12. The degree of LL.D. was conferred on Drs. Henry Head, London; Karl J. Jung, Zurich, and Horatio Robinson Storer, Newport, R. I., and the degree of Doctor of Science on Dr. Nicholas Achucarre, Madrid, and Dr. Gordon Holmes, London.

Drop in Infant Mortality.—For the week ended September 7 there were fifty fewer deaths of infants under 1 year of age than for the previous week. The actual number of deaths of infants under 1 year of age was 319 as compared with 369 for the week ended August 31. This marks the drop in infant mortality which last year came four weeks earlier. The Babies' Welfare Association thinks now that there is no doubt but that last year's record in baby saving will be broken. At the end of the week there were 17,652 babies cared for by the association, a decrease of 131 from the previous week.

No Leniency for Sellers of Bad Milk.—Out of fifteen persons, mostly grocers and keepers of delicatessen shops and restaurants, accused of selling milk that did not come up to the requirements of the board of health, only three were discharged and the fines imposed on the remaining offenders were unusually severe. Thirty-three milk dealers who entered a plea of not guilty were held for further investigation. The New York Milk Committee has urged on the Board of Health the desirability of having grade "C," the milk only fit for cooking, labeled so that those who buy it for drinking purposes in restaurants and lunch rooms may know just what they are getting.

Personal.—Dr. James F. McKernon has been elected president of the New York Post-Graduate Hospital and Medical School, vice Dr. George N. Miller, resigned. The other officers of the institution remain unchanged.——Dr. Simon Flexner has been appointed Huxley lecturer, to speak before the Charing Cross Hospital Medical School in London, Oct. 31, 1912.——Dr. Frederick H. Birchard, formerly assistant in chemistry at the Rockefeller Institute for Medical Research, has been appointed research chemist in the dairy division of the Bureau of Animal Industry, Washington, D. C.——Dr. Don R. Joseph, formerly assistant in physiology at the Rockefeller Institute, has been appointed associate professor of physiology at Bryn Mawr College.——Sir Lambert Ormsby, M. R. C. S., Ireland, has arrived in this country. He went immediately to Toronto, Canada, where he delivered a lecture on "Imperialism."——Drs. William Pincus, H. G. Watson and A. A. Dutari have sailed for Europe.——Dr. and Mrs. G. W. Jacoby, Dr. and Mrs. H. J. Allen and Dr. and Mrs. C. L.

Bailey have returned from Europe.——Dr. E. L. Roy has been appointed coroner's physician, vice Dr. Phillip F. O'Hanlon. ——Dr. J. Wallace Beveridge, who was operated on recently for mastoiditis, is reported to be making good progress toward recovery.

OKLAHOMA

Good Health Tour.—The annual good health tours of the state department under the direction of Dr. J. C. Mahr, Muskogee, State Commissioner of Health, began August 12. The entire state will be covered in these tours, inspections will be made and lectures delivered.

Petition Against Indian Hospital.—A petition against an Indian hospital at Lawton has been sent to the Interior Department, Washington, by Kiowa and Comanche Indians, who assert that the hospital is not needed and that its erection will be a waste of money.

Personal.—Dr. Felix M. Adams, Big Cabin, has been appointed superintendent of the Eastern Oklahoma Hospital for the Insane, Vinita.——Dr. J. D. Ballard, Oklahoma City, has resigned as assistant state auditor and has accepted the position of assistant state examiner and inspector.——Dr. Albert Beasley, Hobart, had a light stroke of paralysis recently, but is reported to be improving.——Dr. and Mrs. C. J. Fishman, Oklahoma City, are spending eight months in Europe.——Dr. W. Moore Thompson, Tulsa, sailed for Europe, August 20, to spend a year in the study of the eye, ear, nose and throat in Vienna.

PENNSYLVANIA

Personal.—Dr. E. R. Walters, director of public health of Pittsburgh, is reported to be ill with small-pox.——Dr. George W. Maust, Lock Haven, is reported to be ill with heart disease.

Tuberculosis Dispensary Ready.—The new quarters of the Williamsport Tuberculosis Dispensary at Pine and Canal Streets has been remodeled and equipped. Dr. Charles W. Youngman is in charge of the dispensary, Dr. Robert F. Trainer is his associate and Dr. Wesley E. Kunkle has been added to the staff and placed in charge of the nose and throat department.

Typhoid at Allentown.—Typhoid fever was reported from Allentown, September 11. Two deaths have occurred and twenty-five persons are down with the disease. The epidemic seems to be limited to the fourteenth ward, which is a newly annexed portion of the city. The source of the infection has not been discovered. An inspector of the State Board of Health has taken charge of the situation.

Nurses Fight "Hex" Doctors.—The Visiting Nurse Association of Reading has issued a statement denouncing the witch doctors. Several deaths, they claim, are attributed to the local practice of summoning these "pow-wowers" to cure infantile ills. It is claimed the association saved the lives of many babies in stepping in and securing the discharge of these so-called witch doctors. Their statement cites the mothers who have been fooled by these fake practitioners.

Medical Hall Dedicated.—The Reading Medical Society dedicated its new home in the old Reading Classical School at the meeting, September 10. Dr. Hiester H. Muhlenberg read the address delivered by the late Dr. Isaac Hiester at the first meeting of the society, August 7, 1824. Dr. Ira G. Shoemaker read a paper on "Our Society and Its Future" and Dr. James Tyson, Philadelphia, president of the Medical Society of the State of Pennsylvania, considered the duties of the medical society to its members, and gave reminiscences of some of the physicians who practiced in Reading half a century ago.

Philadelphia

Hospital News.—As the site for a rear addition, the Kensington Hospital for Women has acquired four three-story brick residences at the back of that institution, at a cost of $4,600.

Charter for Clinical Society.—Application has been made to the courts for a charter for The Clinical Society of Philadelphia. This body intends to possess a building for offices, to hold scientific meetings and to do especially professional work.

New Open-Air School.—The open-air school of the Pennsylvania Society for the Prevention of Tuberculosis began its sessions September 9, on the roof of the Lighthouse, a social center at 152 West Lehigh Avenue. Twenty pupils have thus far enrolled.

To Teach Children Health Methods.—Lectures on practical health and hygiene will be given to 15,000 school children of this city during the year under the auspices of the Pennsylvania Society for the Prevention of Tuberculosis. The lectures began September 11 and are given by Dr. Howard L. Fussell.

Baby Hospital Closes.—The hospital for babies on the Race Street Pier was closed for the season, September 3. During the summer 250 very sick babies were treated and with a very low mortality. Dr. J. D. Brittingham acted as chief physician at the hospital, being assisted as consultants by Dr. J. P. Crozer Griffith and Edward E. Graham.

Hope Tuberculosis Colony.—"The Hope Colony" for the treatment of tuberculosis has been established at the end of one of the Independent Pier Company's wharves, along the Delaware River. More than twenty victims of this disease are being treated here daily with sunshine, fresh air and good food. Many are treated here preparatory to going to the state sanatoriums; others who return from these institutions continue the treatment at this colony. The camp is an adjunct of the Pennsylvania State Tuberculosis Dispensary, and is under the supervision of Drs. A. P. Francine and R. A. Torrey.

Personal.—Dr. Walter E. Kiefer has had the misfortune to lose his wife to whom he was married June 15, and who died August 7 from acute nephritis.——Dr. Charles A. O'Reilly has returned from his studies in Vienna.——Dr. R. M. Palmer, a member of the staff of St. Joseph's Hospital, fell down stairs September 9 and severely injured his right leg.—— Dr. Herbert J. Smith has been elected clinical professor of dermatology in the Medico-Chirurgical College, succeeding the late Dr. John V. Shoemaker. In addition to his new chair, Dr. Smith is also associate professor of materia medica in the college and professor of materia medica and anesthetics in the dental department.

Medical Philadelphia Greets Foreign Guests.—This city and its seaside neighbor, Atlantic City, are honored on September 20, 21 and 22 by the visit of about 250 distinguished European scientists. Under the auspices of the "German Central Committee for Physicians' Study Travels," these physicians, government officials, etc., are touring America and while in this city are entertained by a committee of the medical profession and other representative citizens. A reception to the visitors, under the auspices of the Philadelphia County Medical Society, is given at the Bellevue-Stratford, September 21, and a formal banquet by the city on the evening of September 22 at the roof-garden of the Continental Hotel. The itinerary and personnel of the party were given in General News, August 24 and 31.

Infant Death-Rate Decrease.—Statistics compiled by Dr. Joseph Neff, director of the department of health and charities, for the last four years on the education of mothers in the care of their babies show gratifying results. Compared with a general death-rate of 16.66 in August, 1911, the rate last month was 16.23, a decrease of more than 4 per cent. in the mortality of babies under 1 year of age, and a decrease of 13.4 per cent. of infants under 2 years of age. This decrease in infant mortality has been constant during the last three years. During June, July and August, 1910, the deaths were 1,888; in 1911 they were 1,467, or a decrease of 421, and in 1912 they were 1,274, or a further decrease of 193. During the same months the mortality of babies under 2 years of age from enteritis was 1,258 in 1910, while in 1911 they fell to 903, a decrease of 355, and in 1912 to 712, or a further decrease of 191. Among the effective agencies in the decrease in infant mortality has been the work of the Chestnut Street Recreation Pier and the Baby Hospital at the Race Street Pier, where babies are given medical care and daily classes have been conducted for the instruction of mothers in child hygiene.

VIRGINIA

Personal.—Dr. B. Lawrence Taliaferro has been appointed first assistant resident physician at the Catawba Sanitarium for Tuberculosis. Dr. Taliaferro took treatment at the sanitarium from April to July; during July and August he was substitute assistant physician at the Adirondack Cottage Sanitarium, Trudeau, N. Y., and expects to do special work in tuberculosis on his return to Richmond.——Dr. Allen W. Freeman, assistant state health commissioner, Richmond, was operated on for appendicitis, August 26, at the Trout Hospital, Roanoke, and is reported to be doing well.

WASHINGTON

New Officers.—Washington Association for the Prevention and Relief of Tuberculosis, at Tacoma: president, Dr. C. Quevli, Tacoma; secretary, Prof. John Weinzerl, Seattle.

Personal.—Dr. Mary McMillan has succeeded Dr. Walter F. Nuzum, resigned, as a member of the Board of Medical Super-

visors of the public schools of Spokane.——Dr. and Mrs. E. M. Anderson, Spokane, have sailed for Europe.

To Improve Tacoma General Hospital.—Drs. W. N. Kellar, C. P. Gammon, W. D. Read, L. L. Love and G. C. Wagner have been appointed a committee from Pierce County Medical Association to take up with the trustees of the Tacoma General Hospital the matter of better facilities.

Tuberculosis Hospital Authorized.—The board of public works of Seattle has been authorized to construct a tuberculosis hospital and other necessary buildings for use in connection therewith at Richmond Highlands, a site given to the city several months ago by the King County Anti-Tuberculosis League, and $100,000 was appropriated for this work.

WEST VIRGINIA

Personal.—Dr. E. S. Clovis, Pleasant County, has been appointed superintendent of the State Tuberculosis Sanatorium.——Dr. A. L. Higgins, Wheeling, was operated on recently in the Wheeling Hospital.

State Sanatorium Soon Ready.—The State Tuberculosis Sanatorium, now under construction near Rinard, Preston County, will be ready for use by November 1. The site consists of 551 acres and three buildings are being erected which will accommodate sixty patients.

GENERAL

Tri-City Hospital.—A gift of 1,000 acres of land has been made by Captain J. H. Chrestman, Iris, Miss., to the Tri-State Memorial Hospital, Memphis. The land is believed to be worth at least $50,000.

Meeting of Pacific Railway Surgeons.—The tenth annual meeting of the Pacific Association of Railway Surgeons was held in San Francisco, August 30-31, and the following officers were elected: president, Dr. David Powell, Marysville, Cal.; vice-presidents, Drs. R. T. Legge, McCloud, Cal., and S. J. Gardner, San Francisco; secretary, Dr. G. R. Carson, San Francisco, and treasurer, Dr. E. M. Keys, Alameda, Cal. The association passed resolutions endorsing the Owen bill.

Cumberland Valley Physicians Meet.—The Cumberland Valley Medical Association held its tenth annual meeting in Chambersburg, Pa., September 5, and elected the following officers: president, Dr. Luther H. Keller, Hagerstown, Md.; vice-presidents, Drs. S. E. Mowery, Mechanicsburg, Pa.; Percy D. Hoover, Waynesboro, Pa., and W. B. Wheeler, Boonsboro, Md.; secretary, Dr. John J. Coffman, Scotland, Pa. (reelected); treasurer, Dr. Philip R. Koons, Mechanicsburg, Pa. (reelected).

Missouri Valley Meeting.—The Medical Society of the Missouri Valley held its twenty-fifth annual meeting in Council Bluffs, September 5-6, under the presidency of Dr. J. M. Bell, St. Joseph, Mo. The oration in surgery was delivered by Dr. Henry T. Byford, Chicago, on "Modern Tendencies in Surgery" and the oration in medicine by Dr. W. O. Bridges, Omaha, on "The Present Status of Vaccine Therapy." The following officers were elected: president, Dr. H. B. Jennings, Council Bluffs; vice-presidents, Drs. M. L. Hildreth, Lyons, Neb., and B. T. Quigley, Mound City, Mo.; secretary, Dr. Charles Wood Fassett, St. Joseph, Mo. (reelected), and treasurer, Dr. Oliver C. Gebhard, St. Joseph (reelected). Kansas City was selected as the next place of meeting.

Donations—The following donations have recently been announced:

Chicago-Winfield Tuberculosis Sanatorium, Wheaton, Ill., $25,000 by Mr. Julius Rosenwald for a new administration building.

Dr. John M. Sheller, Denver, $400,000 by the will of the late Mrs. Carolyn Cloth, Memphis, Tenn.

New York Polyclinic Medical School and Hospital, $50,000 for the new building and equipment fund and a legacy of $3,000 by the will of the late David J. Garth.

Jewish Maternity Hospital, New York City, $2,000 for the building fund, the proceeds of an entertainment recently given at Averne.

New York Eye and Ear Infirmary, $25,000 by the will of the late John S. Lyde.

Johns Hopkins Hospital, Baltimore, a donation of $220,000 from Mr. James Brady, New York City.

Jewish Hospital, Philadelphia, $1,000, by the late Joseph Netter.

St. Mary's Free Hospital, New York City, $5,000 for the endowment of a bed, by the late Mrs. Johanna C. Jones, Baltimore.

St. Luke's Hospital, New York City, $10,000 for the endowment of beds to be known as the Henry F. Daly beds for actors, by the late Mrs. Catherine E. Daly.

Alexian Brothers Hospital, Chicago, $1,000 by the will of Simon Mandel.

Graduate Education.—A meeting for regular graduate medical education will be held during the International Medical Congress in London in August, next, by the International Committee for Graduate Medical Education. The program embraces in its first part reports designed as contributions to collective researches concerning the present regular course of medical university instruction and postgraduate education. These reports will include the present regular course of university education up to graduation (including examinations) and the legal provisions governing the whole course of study and the relation in which the university education stands to the graduate education and the present condition of medical graduate education. The second part of the program deals with the necessity of a reform of instruction in a view to the importance of technical skill in the medical profession, and with the importance of social medicine and its collateral lines as a subject for instruction.

Report of Valmora Sanatorium.—The second annual report of the superintendent of the Valmora Industrial Sanatorium, Watrous, N. Mex., shows that the organization has passed the experimental stage. During the greater part of the year less than twenty-five patients were at the sanatorium, thus causing a financial deficit, but during the three months that the full capacity of thirty-five patients was maintained, the institution was more than self-supporting. During the year thirty-nine employees of members were received as patients, as compared with fifteen the previous year. Of these twenty-nine were discharged during the year, twenty-three of whom are at work. Only one employee who went back to work relapsed. During the year the patients have installed a pumping plant, have helped to put up the ice, have hauled all the sawdust from the mill, a distance of twelve miles, have hauled coal, kept the grounds in good order, kept fences and sidewalks in repair, have taken care of their own cottage, carried trays to bed-patients, hauled all groceries and supplies from Watrous and have assisted with the gardening. The institution is overcrowded and increased accommodations for patients, help and officers are needed.

The Infectious Disease Situation.—Seven cases of plague have occurred in Porto Rico since August 27, making the total number of cases fifty-six. Plague-infected ground-squirrels are still being found in California in the country districts outside of San Francisco and Oakland, but none have been found in either of those cities. The last case of human plague occurred in California in Septebmer, 1911. Plague is reported from Amoy and Hong-Kong, Lower Egypt, India, Formosa and certain districts in Persia and Russia. In South America, cases have been reported from Brazil, Chile, Ecuador and Venezuela; also from Trinidad and from South Africa. ——Yellow fever has been reported from Merida, Mex., Manaos and Pernambuco, Brazil, from Chile, Colombia, Ecuador, Peru and Venezuela.——Cholera is reported from Sardinia, and the quarantine officers in the United States at ports at which vessels arrive from Italian ports have been instructed to make careful examination of all passengers.——On account of the large number of emigrants from India and Asiatic ports infected with hookworm, it has become necessary to place restrictions on such emigration at San Francisco. Heretofore, on request, these emigrants have been examined and treated at the government hospital at Angel Island; 1,300 of such patients have been treated within the past year. This has taxed the capacity of the hospital, and the steamship lines engaged in passenger traffic from Asiatic ports have been notified that after Nov. 1, 1912, the United States government would cease to permit the treatment of emigrants suffering from hookworm at Angel Island. The steamship lines must examine all emigrants on the other side in order to avoid the expense of carrying infected passengers back to their point of embarkation.——On account of the prevalence of trachoma among the Indian children on the reservations in Minnesota, the State Board of Health, in cooperation with the federal authorities, has begun a vigorous fight against this infection. Dr. Taliaferro Clark, who has made investigations concerning the disease under the direction of the State Board of Health, has been appointed by the U. S. Public Health Service to have charge of the work. Physical examination of every child entering the schools will be made and those infected will be properly treated. Work will begin first in the schools on the iron range in the northern part of the state where the infection is being carried by the Indians to the white children in the schools.——The presence of Malta fever in the goat-raising region in Texas has become of sufficient importance to enlist the attention of the state authorities and the federal Department of Agriculture. Secretary Wilson has asked Governor Colquitt of Texas to assist in investigating the disease and providing a remedy. It is not known to what extent Malta fever prevails among the goats in Texas, but the facts that it is communicable to man and that a number of cases in human beings have already been reported have led to the action above noted. It is deemed

important to eradicate the disease among the goats even if it is necessary to exterminate all herds infected.——Infantile paralysis is reported from many states, with the greatest number of cases in Buffalo and Los Angeles, the former city having to date 220 cases with 26 deaths. On account of a difference of opinion as to the correctness of the diagnosis of the cases in Los Angeles, the city authorities appointed a committee of medical men to investigate all cases.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Sept. 7, 1912.

The Origin and Nature of Life

The British Association for the Advancement of Science has held its eighty-second annual meeting at Dundee. The attendance numbered 2,379, including 1,200 visitors. President Schäfer delivered an address on the origin and nature of life. He said that recent advances have shown the dividing line between animate and inanimate matter to be less sharp than has been supposed. Living beings are governed by laws identical with those which govern inanimate matter. The most obvious manifestation of life is spontaneous movement, but physicists have shown that precisely similar movements occur in non-living substances. The movements of oil drops, of organic and inorganic mixtures, and even of mercury globules are indistinguishable from those termed "ameboid." The chemistry and physics of the living organism and of nitrogenous colloids are essentially similar. Protoplasm always takes the form of a colloid solution in which the colloids are associated with crystalloids (electrolytes). Enclosing the living substance thus constituted is a film permitting diffusion between the colloid solution constituting the protoplasm and the circumambient medium. Other similar films or membranes occur in the interior of the protoplasm. These films have specific characters, favoring the diffusion of special kinds of material. The changes produced under these conditions, associated with those caused by active chemical agents formed within the protoplasm and known as enzymes, effect assimilation and dissimilation. Similar changes can be produced outside the body (*in vitro*) by purely chemical and physical methods.

Since the initial processes and final results in the transformation of material in a living body are the same as they would be on the assumption that the changes are brought about in conformity with the laws of chemistry and physics, it may be concluded that all the changes in living substances are brought about by ordinary chemical and physical forces. The contention that growth and reproduction are characteristic of life is wrong. Crystals grow and multiply and reproduce their like, given a supply of the requisite pabulum. Even such a complicated process as karyokinesis can be imitated with solutions of sodium chlorid containing a suspension of carbon particles, which arrange themselves under the influence of the movements of the electrolytes. The researches of Loeb show that the fertilization of the egg can no longer be regarded as the result of living matter brought to it by the spermatozoon, since it can be produced by a simple chemical reagent.

The elements composing living substance are few, and when the chemist succeeds in building up the colloid compound which they form, it will without doubt exhibit the phenomena which we call life. The evolutionary process is continuous and shows no gap at any part of its course. This points to the conclusion that life must have been produced by a gradual change from lifeless material on the borderland between animate and inanimate. The last place to look for such change is in hermetically sealed flasks; we should look for it under natural conditions. There is no valid reason for the belief that at some previous period the earth was more favorably circumstanced than now for the production of life. If living matter has been evolved from lifeless in the past, its evolution is possible in the present and the future. At first, it must be life of a far simpler character than any that has yet been observed, so that, if we are able to detect the material, we shall be uncertain whether to call it animate or inanimate. Probably we shall not be able to visualize it after we have become convinced of its existence.

The Love Marriage Advocated on Eugenic Grounds

In his presidential address at the annual conference of the Sanitary Inspectors' Association, Sir James Crichton-Browne advocated the love marriage on eugenic grounds. He said that much more precise information as to the transmission of characters was necessary before any extensive control could be exercised over human mating, but even now something might be done by physicians to found a moral sentiment in the community in connection with marriage and the welfare of future generations. He believed in the "love match" not only from the romantic but from the eugenic point of view. "Love at first sight" of the right kind was a physiologic epoch corresponding with the installation of new circuits in the brain.

Health Certificates for Chauffeurs

The necessity of medical certificates for chauffeurs has been brought forward in consequence of the death of a driver from heart failure while driving a motor car. He had suffered from heart disease practically all his life. The coroner's jury declared that a medical certificate of fitness should be produced before a license was issued to the driver of a hired car. A proposal advanced some months ago that chauffeurs should be periodically examined by physicians at bureaus, met insurmountable obstacles, and it was abandoned after the Automobile Association had been approached. The men themselves did not regard this supervision too kindly. The 16,000 licensed chauffeurs of buses and taxicabs in the metropolis are required to hold physicians' certificates, and for the large majority there is no medical supervision after the license has been obtained. A periodical medical supervision after the issuing of a license, as well as a preliminary examination, is advisable in the public interest.

Detention of a Consumptive

Under a recent act, a consumptive was for the first time forcibly detained in this country. The town clerk of St. Helens applied to the magistrate because the health officer certified that a man suffering from consumption lodged with his wife, two children and four other adults in a small house. It was impossible under the circumstances to take precautions against the spread of infection. An order was made for the detention of the patient in hospital for three months.

Tropical Disease in Northern Australia

While tropical diseases are rare in northern Australia, the report recently made by the Preliminary Scientific Expedition shows that white settlement is primarily a medical problem. As Dr. Breinl, the director of the Australian Institute of Tropical Medicine, points out, "the number of deaths due to 'fever,' in most instances malarial fever, has been high." In 1909 and 1910, malaria accounted for 26.47 and 20 per cent. respectively of the total death-rate. Dysentery also accounts for a certain number of deaths, and in certain years epidemics have occurred. Other diseases, such as beriberi, ankylostomiasis, yaws, trachoma and leprosy are not unknown, but so far the cases have been for the most part sporadic. Despite the tropical climate those residents and their children who care to live a reasonable life, taking adequate exercise, enjoy good health. As yet, however, there is little if any evidence of the effect of the climate on a third generation. Dr. Breinl says: "Life on the stations is ideal from a health point of view. The active and mainly outdoor life, the comparatively cool and dry winter on the tablelands, are all conducive to splendid physical development and robust constitutions." The most elementary precautions are not taken against the spread of malaria. The conditions in the mining settlements are such that it would prove a comparatively simple matter effectively to eliminate malaria by kerosening the breeding-places of mosquitoes, or by removing the mining camps from the rivers, where such treatment is not economically practicable.

The Campaign Against Tuberculosis

Sir William Osler recommends that under the national insurance act a comprehensive scheme be adopted for coordinating the various agencies which can be used in the struggle against tuberculosis. These are as follows: (1) a head department at the local government board with lay and professional representation; (2) central institutes in London, Dublin and Edinburgh dealing with the educational, social and scientific aspects of the work; for research purposes the energies should be concentrated in one large laboratory; (3) dispensaries officered by trained men whose work can be supervised directly from the central bodies; (4) sanatoriums and hospitals; (5) doctors, health officers and nurses. The fighting line will center about the dispensaries. Sir William Osler recommends also that provision be made for special training of the dispensary officers in methods of work and particularly in diagnosis, as the diagnosis of tuberculosis is often difficult and mistakes are common, which will cost the country much money. He thinks that the tuberculosis work should be linked

with the existing hospitals and dispensaries. Of this the advantages are many. Patients who are not tuberculous will often apply to the dispensary and can be turned over promptly to the proper department. Many cases of bone, gland and other forms of local tuberculosis need surgical advice and treatment, which patients can receive while attending this special dispensary. It is also important that the staffs of the general hospitals should not be deprived of the opportunity of seeing so important a disease as tuberculosis. This plan Sir William Osler has found to work well in what he describes as "one of the most successful of tuberculosis dispensaries," which he started by the generosity of Mr. Henry Phipps in connection with the Johns Hopkins Hospital. This now forms an important part of a great medical school through which every student as a matter of routine passes as a clinical clerk. He thinks that before any great outlay is made on sanatoriums the dispensaries should be in full working order, so that in each district the patients needing home and shelter, sanatorium and hospital treatment may be ascertained.

A Scheme to Revive Bath by a Radium Syndicate

A scheme to revive Bath, which was famous more than a century ago for the healing properties of its waters and a great resort for fashionable people, has been brought forward. As was reported in a previous letter to THE JOURNAL, Sir William Ramsay, the distinguished scientist, has found that the Bath waters possess remarkable radio-active properties. The scheme includes leasing the bathing establishment, pump-room, antiquities and other properties to the syndicate, which is expected to spend over a million dollars in its development. As a result of the publication of Sir William Ramsay's investigations Bath has already enjoyed an appreciable revival of its old-time popularity. Sir William Ramsay states that the baths contain a quantity of niton, or radium emanation, which is more potent than radium. He proposes to increase the absorption of the emanation by means of cataphoresis.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Aug. 30, 1912.

Medical Congresses

For some years medical congresses have been multiplying beyond reasonable limits. In the *Journal des Praticiens*, Prof. Albert Robin discusses their utility and asks whether it would be better to suppress these congresses or merely to reform them. What ends should be served by medical congresses? They bring together medical men who do not know each other, draw closer the bonds of fraternity among those who are already acquainted, promote relations of international interchange by which science cannot fail to profit, and enlarge minds by conflict with other minds. Except for these benefits, Robin believes that congresses as held to-day, except here and there a congress limited to a specialty, have had almost no usefulness. No discovery of value has ever been announced at one of them and no question has received even a temporary solution. When a scientist has achieved something worth while, he does not wait for a congress to make it known, for opportunities to publish it are not lacking. Moreover, the meetings are rare in which papers are discussed; and when they are discussed, the personalities injected into the discussion obscure the subject almost more than they illuminate it. As an example of the scientific inutility of these congresses Robin cites the recent tuberculosis congress at Rome, which was a pretext for personal advertising and for the exploitation of many new and worthless treatments. As at present organized, congresses accomplish no scientific or practical work. Unless they are radically changed it would be best to suppress them. Perhaps they are already undergoing a slow death since those physicians who could restore life to them are deserting them more and more. Yet Robin believes that medical congresses may be made to serve a useful purpose by revolutionizing the system of management. In the first place each congress should have an independent committee of organization which is not a close corporation, a condition far too common at present. These committees of organization ought to be composed of representatives from various scientific and professional bodies elected because they will devote themselves actively to the organization of the congress. In order to have the scientific and practical function which it lacks at present, each congress should take a single subject for discussion. Independent essayists should sum up the present condition of science on a question and each phase of the question should be the subject of a paper. The discussion should take up successively all these papers, each member of the congress bringing to it the results of his researches or his personal observation. After each session a summary of the discussion should be made, to be discussed at the beginning of the following session. After the session preceding the last one there should be drawn up, from these partial summaries, general conclusions which should be read, discussed and voted on in the last session. This would establish the status of the question at the time when these conclusions were drawn and would be a point of departure for further work. In this way at a medical congress competent men would concentrate their efforts on a single point instead of scattering them in communications which are chiefly useless or faddish.

The Consumption of Alcohol

The *Bulletin de statistique* has just published complete reports on the production and consumption of alcohol in France during the last year, permitting an exact estimate of the alarming progress made by alcohol in all countries. The total amount of alcohol produced in 1911 was 2,272,133 hectoliters of pure alcohol. This is 21,301 hectoliters more than in 1910 and 63,983 hectoliters more than the average of the ten previous years. A part of the alcohol produced is denatured for industrial use, another part is consumed in the form of spirits, brandy, etc. In 1911, 1,574,018 hectoliters of pure alcohol (100°) were consumed. This figure should be trebled to indicate the volume of alcoholic drinks consumed by the inhabitants of France. This figure is the highest that has been attained since 1901 when the tax was laid on alcohol consumed. The consumption of alcohol has increased by 11 per cent. from 1910 to 1911. The seriousness of the evil may be estimated better by deducing from these figures the average consumption for each inhabitant of France—man, woman or child. In 1907 the annual consumption of pure alcohol was a little less than 3.31 liters (about 3½ quarts). It has risen by regular gradations to something over 4 liters in 1911. The departments where the consumption of alcohol has been highest are those of Normandy.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Aug. 31, 1912.

Personal

Professor Heubner, our distinguished pediatrist, will resign his position at the end of the winter semester. Next January he will reach his 70th birthday and although he enjoys relatively great intellectual vigor, he feels the justifiable desire to enjoy his leisure with dignity. It is rumored that the cultivation of his loved music will play a great rôle in it.

Professor Schreiber of Königsberg has been appointed a regular honorary professor.

A change has been effected in the arrangement of the Munich medical clinics to the extent that Prof. Friedrich Müller, instead of retaining the second clinic has taken the first, left vacant by the death of Professor Bauer, while Professor Romberg from Tübingen comes to take Müller's former place.

Regulation of the Sale of Milk in Prussia

The minister of commerce, the minister of the interior and the minister of agriculture have promulgated a decree to the provincial presidents regarding the sale of cow's milk.

The decree points out in the first place that in view of the different conditions under which milk is produced and marketed in the different parts of Prussia it is not feasible to impose the same conditions without modifications. This is especially true with regard to the regulations for the production of milk and for the trade in choice milk. The regulations of the police which have hitherto governed the trade in milk have quite generally laid a one-sided emphasis on a definite fat content. In addition to this it should be noted that the cleanly production of milk and its freshness are of special importance.

Milk should be excluded from sale which is so unclean that when 0.5 to 1 liter is allowed to stand for half an hour in a cylindrical or flask-shaped glass vessel made of colorless or nearly colorless glass with a flat bottom, whose diameter is about half the height to which the vessel is filled with milk, a readily demonstrable sediment appears on the bottom. Milk is not marketable when water or ice or preservatives have been added, although an addition of milk ice (*Milcheis*) is permissible to fresh milk and of lab or acid bacteria (*Lab- oder Säurebakterien*) to sour milk or sour cream. Milk is also to be excluded from sale which is foul smelling, putrid, discolored, bloody, slimy or bitter; also that which is milked

shortly before or a few days after calving, so long as it coagulates on boiling, or has not the appearance, smell and taste of ordinary milk; also milk from cows whose general condition is markedly disturbed, unless a veterinarian certifies that the milk is marketable.

Milk which does not coagulate on boiling or on mixing with an equal quantity of spirits of 70 per cent. by volume is regarded as fresh. It shall be labeled only as full milk, or skim milk. As full milk shall be reckoned without more exact investigation of its composition any milk which consists of the whole yield, thoroughly mixed, of at least a single milking of at least one cow, which has received no admixture aside from full milk ice and from which nothing has been abstracted, and which contains at least 2.7 per cent. of fat. In this respect in certain localities a higher minimum requirement of fat may be demanded. Full milk whose fat content does not reach 2.7 per cent. is to be labeled as "full milk of second grade" or as "full milk with less than 2.7 per cent. of fat." All fresh milk in which changes have been made in the fat content may only be labeled skim milk. The minimum fat content, if determined, may be stated.

It is essential that the vessels from which or in which milk is sold should be plainly marked so that the public may at any time be in position to determine that milk of the required kind and composition is being sold. As to the question under what conditions heated milk may be sold as pasteurized or sterilized milk the following may be taken as throwing light on the matter. Milk is to be regarded as pasteurized when it has been heated at least to 70 C. (138 F.). Milk shall be labeled as sterilized only when it has been heated to 100 C. for at least fifteen minutes in vessels the opening of which shall be closed air-tight either during the heating or immediately after, and shall be kept closed air-tight until delivered to the consumer.

The ministers in their decree emphasize the importance of constant control of the sale of milk in view of the importance of milk as a foodstuff. Such control will give the opportunity for the removal of nuisances. In addition every feasible means should be employed for promoting an understanding of the proper production and handling of milk among farmers, dairymen, milk dealers and the public generally. Instructive articles in the daily papers are especially suited to this purpose in addition to the circulation of the official leaflets on milk.

Association for the Exchange of Anatomic Preparations

In close connection with the German Pathological Society an association for the exchange of anatomic preparations has been formed, which almost all of the German pathologists and a number of foreign pathologists as well as many others have joined. An association for the exchange of anatomic preparations is contemplated for Germany and Europe, similar to that which has for some years been successfully operated in the medical museums of North America. The central bureau of the association is located in the Senckenberg Pathologic Institute (Senckenberg Pathologisches Institut, 229 Gartenstrasse, Frankfurt a. M.). The association has also established a microscopic central station connected with the central bureau, which will collect and preserve in future illustrative preparations in all the important branches of histology. The opportunity will thus be afforded after the lapse of years to reinvestigate and study the descriptions in the literature on the basis of the original preparations. The directors of scientific institutes, clinics and hospitals are asked to support these efforts at collecting microscopic preparations so far as they are able. Histologic preparations illustrating articles which have already appeared will also be gladly received at the institute. The executive committee of the association consists of Fraenkel of Hamburg, Paltauf of Vienna and Aschoff of Freiburg, the chairmen of the German Pathological Society, M. B. Schmidt of Marburg and B. Fischer of Frankfort. The annual dues are 75 cents (3 marks).

Classification of Human Races

At the meeting of the German Anthropological Society, whose proceedings I have already partly reported, Professor von Baelz, the distinguished anthropologist of Stuttgart, delivered an interesting address on the method of classification of the races of mankind. The first scheme was that of the noted botanist, Linné, which divided man into the American, European, Asiatic and African varieties. This entirely insufficient and unscientific grouping was followed by that of Blumenbach which designated the Caucasian, Mongolian, Ethiopian, Malay and American races. This also is a geographic but scarcely scientific nomenclature and was replaced by Cuvier by a classification into the white (Caucasian), black (Ethiopian) and yellow race. This classification has been the basis of many later systems, but the further the study of anthropology has extended, the more the need has been felt of finding exact scientific criteria for a classification of races. Baelz directed attention to the skeleton and especially to the skull, and discussed critically the value of knowledge of the skeleton. He still maintains the assertion he made many years ago, that the study of the face was neglected in favor of the skull and the study of the living man in favor of the skeleton. In the examination of fossil man, to be sure, we must always remain limited to the skeleton, but it is doubtful whether the scanty findings and particularly the "disjecta membra" in the proper sense of the word are found in sufficient amount to determine different races as has been done. When it is considered how difficult it is in living forms, with their greater numbers and with their innumerable individual marks, to establish distinct limits of the racial types, one cannot be too distinctly warned to be cautious with regard to the skeleton. Even ten years ago there was a disposition to regard primitive man as entirely extinct and different from the men of the present day, but it is now certain that not only in Australia but even with us types occur quite similar to those of the Neanderthal man. If the human beings one meets on journeys and in crowds are accurately observed, it will be found that such types are much more frequent, but the attempt is made from the scanty diluvial bone remnants not only to construct characteristic prehistoric races, but to bring them into quite definite relation to the anthropoid apes on the one hand and to the human race of the present day on the other. The attempt is even made to trace the paths of their migrations.

But the fate of the Neanderthal brain cavity should be a warning. Particularly the projection over the eye, the retreating forehead and the flattened vault of the skull are regarded as an evidence of a lower stage of human development and a correspondingly small brain. When the pithecantropos was discovered and so beautifully fitted to its place, the entire series of forms from the anthropoid apes to the European of the present day was presumably established. To the Neanderthal man, 1,200 c.c. of cranial content were assigned, and therefore he found his position naturally at the lowest limit of mankind. Now we know that the Neanderthal race, in spite of their small stature, had a larger brain than the average of tall and highly cultivated Europeans of the present day, so that all the trouble expended on the measurement of the cranial content, the volume of the brain, was in vain.

Everything warns us to be cautious in osteology. Hasty conclusions have discredited the entire theory of the skull and the skeleton, so that now many ethnologists give it scarcely any value. This is, however, a great error, for our knowledge of fossil man depends entirely on this measure and furthermore, through the relationship with the parts of the face and their proportions as determined by Broca, Virchow and Kollmann and others and by the newer investigations, particularly, of J. Schwalbe and Klaatsch, the examination of bones has been so amplified that it furnishes a number of important factors for the discrimination of the races. Its manifold results appear to be of greater value for the knowledge of races than another physical character, which has been of late put very much in the foreground in the classification of races, namely, the character of the hair.

BUDAPEST LETTER

(From Our Occasional Correspondent)

BUDAPEST, Aug. 10, 1912.

Pellagra in Hungary

In 1905 an attempt was made by the government to check pellagra by the distribution of good flour and the instruction of the people in prophylaxis. Bakeries were established in various districts where bread could be obtained at cost. Bad harvests recently have nullified the benefit obtained. More careful examination has revealed the disease in new districts. In 1901 there were 251 cases reported; in 1906 there were 1,575 and in 1909 the number was 2,148. Last year 135 pellagra patients were admitted to the hospitals. In eighteen districts last year $30,000 were spent in preventive measures with the result that 76 per cent. were reported as improved, 22 per cent. not improved, 1 per cent. became worse and 1 per cent. died. Treatment consisted in free distribution of healthy food and quinin and iron. Surgical measures were applied where necessary. Sixty thousand dollars has been appropriated by the government this year in order that prophylactic and therapeutic measures may be extended to all the affected districts.

Marriages

TRUMAN LAWRENCE SAUNDERS, M.D., to Miss Elizabeth Gorham Bacon, both of New York City, at Yarmouthport, Mass., September 5.

JOHN HOWARD RAHTER, M.D., Harrisburg, Pa., to Miss Helen Mathewson of Dauphin, Pa., at Atlantic City, N. J., September 3.

DWIGHT ALLISON, M.D., to Miss Ethel Lund, both of Taos, N. Mex., at the Lund ranch near Cienegueilla, September 4.

WILLIAM BERNARD MCGLENNON, M.D., East Newark, N. J., to Miss Mary Powell of Washington, D. C., September 4.

RAND P. CRANDALL, M.D., U. S. Navy, to Miss Hazel Clark Irey of Chicago, at Elizabeth City, N. C., September 3.

CLARK E. CONGDON, M.D., Fort Plain, N. Y., to Mrs. Maria Margaret Sisum of St. Johnsville, N. Y., September 2.

JAMES THURSTON WOLFE, M.D., Washington, D.C., to Mrs. Mattie Leigh Walker, at Farmville, Va., September 7.

JACOB HINDEN, M.D., to Miss Myra A. Marvin, both of Strong City, Kan., at Kansas City, Mo., August 27.

WILLIAM BARTON BRADER, M.D., Brooklyn, N. Y., to Miss Harriet Hartzog of Wellsboro, N. Y., August 31.

CHARLES NEWLAND SLATER, M.D., Clarksburg, W. Va., to Miss Viola Worden of Philadelphia, September 7.

HOWARD J. MALDEIS, M.D., Baltimore, to Miss Louise Cecil Watkins of Arlington, Baltimore, September 7.

RALPH M. BOLMAN, M.D., Fort Wayne, Ind., to Miss Vita McNair of Kendallville, Ind., September 4.

GEORGE GILL RICHARDS, M.D., to Miss Florence Farnsworth, both of Salt Lake City, September 3.

HENRY C. WERNER, M.D., to Miss Elsa Elizabeth Mast, both of Fond du Lac, Wis., September 9.

SAMUEL ROBERT MCKELVEY, M.D., to Miss Lovenia Dell Neel, both of Denver, September 5.

TRUMAN COATES, M.D., Oxford, Pa., to Miss Deborah Pownall of Christiana, Pa., September 4.

EDWIN EVERETT MADDEN, M.D., to Miss Marion Hyman, both of Chicago, recently.

HARRY JACKSON, M.D., to Miss Theresa Wertheimer, both of Chicago, September 10.

Oral Sepsis and Life-Insurance Risks.—The relation to life-insurance of septic mouths and carious teeth as sources of various infections is discussed by Nodine (*Oral Hygiene*, May, 1912). He says that the weak link in life-insurance medical examinations is the failure to appreciate the fact that diseased teeth and gums are a considerable and constant menace to the health of the individual and a dangerous source for the dissemination of disease to others. He calls attention to the fact that about 30 per cent. of policy-holders who die before the age of 30 die of tuberculosis. If the mucous membrane of the mouth and gums is in a healthy condition it is almost impervious to infection, but when it becomes congested, irritated or injured from any number of frequent causes, it becomes an avenue of infection. The infection may be taken into the stomach or drawn into the lungs or may enter through a break in the mucous membrane, through the tonsils or through carious teeth or infected pulp canals. Nodine believes that primary tuberculosis of the mouth is not a rare disease, though it is often overlooked. He also concludes that the mouth and gastro-intestinal tract constitute a general avenue of tuberculous infection; the septic mouth with carious teeth is a center for the insidious dissemination of the disease; the constant absorption of pyogenic microorganisms from the mouth and alimentary canal produces toxemias which reduce resistance. A number of life-insurance companies have undertaken the work of educating their policy-holders in personal hygiene and in human conservation. Nodine believes that the mouth as a source of infection and consequent ill health deserves the attention of medical examiners and insurance companies in their work of education and of human conservation.

Deaths

James Caldwell Willson, M.D. University of Michigan, Ann Arbor, 1859; a member of the Michigan State Medical Society and a pioneer resident of Flint, Mich.; surgeon of the Eighth Michigan Volunteer Infantry during the Civil War; mayor of Flint in 1879; a member of the board of education from 1881 to 1884 and treasurer of the board of trustees of the Michigan School for the Deaf for six years; died at the home of his son, in Flint, August 25, from stricture of the esophagus, aged 79.

Charles Thorndike Parker, M.D. College of Physicians and Surgeons, New York City, 1887; for four years thereafter demonstrator of anatomy and later instructor in operative surgery in his alma mater; formerly attending surgeon to the Chambers Street Hospital, Manhattan Hospital and J. Hood Wright Hospital, New York City; who retired from practice on account of ill health; died in his home in South Hamilton, Mass., August 31, from pneumonia, aged 53.

George Hultz Cocks, M.D. Bellevue Hospital Medical College, 1882; of New York City; a member of the American Medical Association and New York Academy of Medicine; secretary of the New York Ophthalmic Society; ophthalmic surgeon at the Institution of Mercy, and for many years assistant surgeon to the New York Eye and Ear Infirmary; died at his summer home in Pleasantville, N. Y., September 8, from angina pectoris, aged 51.

Elizabeth Hedges Blauvelt, M.D. Johns Hopkins Medical School, Baltimore, 1902; afterward an intern in Woman's Hospital in the State of New York, for six years a missionary in China, and during three years of that time superintendent of the Dutch Reformed Church Hospital at Amoy; died at Saranac Lake, N. Y., September 1, from tuberculosis, aged 30.

Fremont Swain, M.D. Central College of Physicians and Surgeons, Indianapolis, 1884; of Indianapolis; formerly director of physical culture at Lehigh University; while riding a bicycle across the Monon tracks at Michigan Street, was struck by a train and received injuries from which he died September 3, aged 50.

Joseph W. Lane, M.D. Queens University, Kingston, Ont., 1874; once president of the Ontario Medical Council; one of the oldest coroners of the province; medical health officer of Mallorytown, Ont.; formerly reeve of Front of Yonge and a veteran of the Fenian raids; died at his home in Mallorytown, June 7, aged 65.

Charles Robert Nyberg, M.D. Northwestern University Medical School, Chicago, 1911; a member of the American Medical Association; formerly physician on the Indian Reservation at Gila Crossing, Ariz.; school physician of Phoenix; died in that city, August 26, from hemorrhage of the lungs, aged 24.

Benjamin Bert Putman, M.D. Washington University, St. Louis, 1872; a member of the Missouri State Medical Association, and formerly president of the Linn County Medical Society; local surgeon of the Santa Fe System; died in his home in Marceline, Mo., July 14, from pernicious anemia, aged 68.

Fouman F. Tong (license, New York, 1908), a graduate of the Imperial Medical College, Tientsin, China, in 1900; also a practicing lawyer; secretary to the Chinese Consul and prominent in the Chinese Republic; died in his apartment in New York City, about August 29, from heart disease, aged 35.

George W. Daniels, M.D. Cincinnati College of Medicine and Surgery, 1871; a veteran of the Civil War; for about forty-five years a practitioner of Gerrardstown, W. Va.; a member of the West Virginia house of delegates from 1908 to 1910; died at his home, September 4, from senile debility, aged 73.

George Buntin Grober, M.D. College of Physicians and Surgeons, Chicago, 1909; a member of the Illinois State Medical Society; formerly of Chicago and later of Kelliher, Minn.; was found dead in his room in a hotel in Wadena, September 2, from the effects of an overdose of morphine, aged 24.

John Henry Wilson, M.D. Victoria Medical College, Coburg, Ont., 1858; afterward a professor of anatomy in his alma mater; a member of parliament from East Elgin in 1871, 1875 and 1882, and later a member of the provincial senate; died at his home in St. Thomas, Ont., June 4, aged 78.

Ernest Smith Bishop, M.D. College of Physicians and Surgeons, New York, 1892; a member of the Associated Physicians of Long Island; for many years a practitioner of the Bedford district of Brooklyn; died at the home of his brother in Guilford, Conn., August 9, from nephritis, aged 46.

Frank Wallace Brett, M.D. College of Physicians and Surgeons, Boston, 1894; a member of the American Medical Association; for several years a member of the board of health of South Braintree, Mass.; died in his home in that city, September 1, from cerebral hemorrhage, aged 50.

John R. Phillips, M.D. Victoria University, Coburg, Ont., 1884; a member of the American Medical Association; a member of the Minnesota house of representatives in 1903; for twenty-eight years a resident of Northfield; died in a hospital in Chicago, September 4, aged 50.

Hamilton H. Hulcee, M.D. University of Louisville, Ky., 1876; a Confederate veteran, and for more than twenty-five years a practitioner of Louisville; died in the infirmary of the Kentucky State Confederate Home, Pewee Valley, August 29, from nephritis, aged 66.

Joel Williston Wright, M.D. College of Physicians and Surgeons, New York City, 1866; of Albany, N. Y.; emeritus professor of principles and practice of surgery in the University of Vermont, Burlington; died at his summer home, Lake Placid, N. Y., September 2.

Charles A. Smith, M.D. Minnesota Hospital Medical College, 1888; a member of the American Medical Association; for more than ten years a member of the staff of Asbury Hospital, Minneapolis; died at his home in that city, September 1, from nephritis, aged 48.

Charles H. Hough, M.D. Homeopathic College Hospital, Cleveland, Ohio, 1884; of Champaign, Ill.; president of the Mississippi Valley Improvement Association; died suddenly in Champaign, September 10, from cerebral hemorrhage, aged about 50.

Charles Delano Cook, M.D. Castleton (Vt.) Medical College, 1848; a member of the Kings County (N. Y.) Medical Society; for more than fifty years a dentist of Brooklyn; died at his home in that city, September 5, from cerebral hemorrhage, aged 86.

Lebanon U. Howard, M.D. Western Reserve University, Cleveland, 1893; formerly a practitioner of Youngstown, Ohio, and a member of the Youngstown Medical Association; died at his country home in Rosemont, August 30, from diabetes, aged 53.

Charles H. Foertmeyer, M.D. Medical College of Ohio, Cincinnati, 1872; a member of the Ohio State Medical Association and one of the oldest practitioners of Cincinnati; died at his home in that city, August 31, from bronchitis, aged 71.

William T. Kile, M.D. State University of Iowa, College of Homeopathic Medicine, Iowa City, 1885; a member of the Nebraska State Medical Association; died in his office in Plainview, August 31, from cerebral hemorrhage, aged 55.

Andrew H. McCord, M.D. Missouri Medical College, St. Louis, 1879; surgeon of the State Penitentiary, Rusk, Tex.; president of the Young Men's Business League; died on Irby Mountain, August 29, from heart disease, aged 55.

John A. Chesney, M.D. Columbus (Ohio) Medical College, 1879; a member of the Ohio State Medical Association and local surgeon of the various railways centering in Bucyrus; died suddenly in his office, August 31, aged 55.

Solomon F. Ballinger, M.D. Medical College of Ohio, Cincinnati, 1865; a surgeon in the Federal service during the Civil War; for more than thirty years a practitioner of Alliance, Ohio; died at his home, September 4, aged 76.

Clarence Edgar Carruth, M.D. University of Vermont, Burlington, 1880; mayor and formerly city physician, and a member of the school board of Cohoes, N. Y.; died at his home, August 31, from heart disease, aged 56.

Cyrille Emile Vaillancourt, M.D. Laval University, Quebec, 1871; once mayor of St. Anselme, Que., and from 1892 to 1896 a member of parliament from Dorchester County; died at his home in St. Anselme, June 7, aged 64.

Alexander Smith, M.D. Medical College of Ohio, Cincinnati, 1878; who had previously attempted to commit suicide by taking morphin, hung himself to a tree near his home in Marysville, Ohio, August 31, aged 61.

George L. Calloway, M.D. Eclectic Medical Institute, Cincinnati, 1892; died in his office in Osgood, Mo., September 2, aged 39, from the effects of phenol believed to have been self-administered with suicidal intent.

Ezra Armstrong Hebard, M.D. Berkshire Medical College, Pittsfield, Mass., 1851; for many years a physician of Lapeer and Kent counties, Mich.; died at his winter home in Asheville, N. C., September 6, aged 82.

J. C. Dillon, M.D. Medical College of Ohio, Cincinnati, 1870; of Rushville, Ind.; died recently in a sanatorium in Oxford, Ohio, aged 67.

James C. Holloway, M.D. Homeopathic Medical College of Missouri, St. Louis, 1886; of Galesburg, Ill.; formerly a clergyman of the Christian church; died after a surgical operation, August 25, in a Chicago hospital.

Josiah Wayne T'Miller, M.D. University of Pennsylvania, Philadelphia, 1878; for thirty years a practitioner of Ridgeville, Pa.; died at his home in Parkerford, Pa., August 6, from cerebral hemorrhage, aged 69.

Francis Henry Pope, M.D. Western Reserve University, Cleveland, Ohio, 1854; Victoria University, Coburg, Ont., 1868; died suddenly near his home in Bothwell, Ont., July 30, from cerebral hemorrhage, aged 83.

William Thomas Klein, M.D. College of Physicians and Surgeons, New York City, 1895; bacteriologist of the New York Health Department; died at his summer home, Sea Cliff, L. I., September 7, aged 37.

James Cornelius Murphy, M.D. Harvard Medical School, Boston, 1905; a member of the American Medical Association; of Norwood, Mass.; died in Carney Hospital, Boston, September 3, aged 31.

Glenn W. Rosborough, M.D. Lincoln (Neb.) Medical College, 1910; of Cheyenne, Wyo.; died in St. John's Hospital, Cheyenne, August 31, from septicemia following an operation for carbuncle, aged 25.

Benjamin Burkett, M.D. Indiana Medical College, Indianapolis, 1879; for many years a practitioner of Warsaw, Ind.; died at his home in that city, August 28, from senile debility, aged 83.

John Morrison Ireland, M.D. Medical College of Evansville, Ind., 1854; for fifty-eight years a practitioner of Francisco, Ind.; died at his home, September 3, from senile debility, aged 87.

Willard Crafts Crocker, M.D. University of Vermont, Burlington, 1887; formerly a member of the Massachusetts Medical Society; died in his home in Foxboro, Mass., September 4, aged 53.

Noah Anthony Wayne Stoker, M.D. Ohio Medical University, Columbus, 1897; formerly health officer of Rossford, Ohio; died at his home in that city, September 3, aged 50.

William Milliken, M.D. Jefferson Medical College, 1895; for many years a practitioner of Nebraska; died at his home near Birdsboro, Pa., July 27, from heart disease, aged 42.

Frederick Roy Branscombe, M.D. University of Vermont, Burlington, 1912; of Corn Hill, N. B.; died in the Mary Fletcher Hospital, Burlington, June 24, aged 30.

Purnell W. Adams, M.D. Homeopathic Medical College of Pennsylvania, Philadelphia, 1867; died at his home in Camden, N. J., June 4, from heart disease, aged 65.

W. S. Baker, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1870; died at his home in Farmington, Iowa, August 15, from disease of the stomach.

Albert P. Murray, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1878; a veteran of the Civil War; died at his home in Albany, Ind., September 3.

William Thomas Bellomy, M.D. College of Physicians and Surgeons, Chicago, 1884; died at his home in Pleasantview, Ill., August 18, aged 50.

J. B. Gage, M.D. New Orleans School of Medicine, 186—; (license, Mississippi Board of Health); died at his home in Grenada, September 3.

Tobias Campbell, M.D. Jefferson Medical College, 1886; died at his home in Martinsburg, Pa., September 1, from cerebral hemorrhage, aged 55.

William Chattles Alspaugh, M.D. Bellevue Hospital Medical College, 1868; died at his home in High Bridge, N. J., August 13, aged 70.

Nathan Smith McDonald (license, Kansas, 1901); a practitioner since 1868; died at his home in Climax, August 20, aged 67.

William Fielding Barnes, M.D. Halifax (N. S.) Medical College, 1911; of Halifax; died at Hopewell, N. S., August 5, aged 23.

Henry J. Bruce, M.D. Long Island College Hospital, Brooklyn, 1874; died at his home in Bridgeton, R. I., August 8, aged 64.

William H. Barber, M.D. Hahnemann Medical College, Chicago, 1883; died at his home in Fullerton, Neb., July 4, aged 56.

James M. Perkins, M.D. Missouri Medical College, St. Louis, 1890; died at his home in Laclede, Mo., August 24, aged 58.

Thomas D. Clegg, M.D. Hahnemann Medical College, Philadelphia, 1889; died at his home in that city, June 26.

T. R. Bridges (license, Missouri, 1883); died at his home in Syracuse, August 1, aged 69.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

KELLOGG'S OBESITY CURES AND OTHER FRAUDS

Frank J. Kellogg of Battle Creek, Mich., finds quackery profitable. Starting, it is said, with practically nothing, Kellogg is now rated in the millionaire class and is said to be a director of one of the Battle Creek banks. Kellogg has made his thousands selling fraudulent anti-fat and anti-lean preparations. He has headquarters both at Battle Creek and at Detroit, Mich. From Battle Creek, he sells "Kellogg's Safe Fat Reducer," and "Sanitone Wafers;" from Detroit, he conducts the Rengo Company and the Protone Company. Rengo is sold as an obesity cure; Protone is advertised as a flesh builder. As a sideline, the Protone and Rengo companies both sell "Multo Fruto," a constipation cure. All of the Kellogg products are dispensed on the medical mail-order plan by methods that are typical of that class of fakes. Advertisements in newspapers and magazines bring to Kellogg the necessary mailing list; follow up letters and advertising circulars do the rest.

Some typical Kellogg advertisements.

Sanitone Wafers

Sanitone Wafers are advertised as the "greatest Nerve Vitalizer known" and the reader is advised that a "fifty cent trial package" will be sent free to anyone who applies for it. Those who write for the free sample receive a small box in which are a few orange-colored tablets, and by the same mail, a larger box containing a "complete thirty days' treatment" for which $5 is asked. If no further notice is taken of the Kellogg concern, the unwilling recipient of the $5 "treatment" is bombarded with a series of follow-up letters each succeeding letter being more insistent than its predecessor in urging that the money be sent for the treatment. Like all mail-order medical fakers, Kellogg has a sliding scale of prices. The first two letters ask $5 for the "treatment" that was sent unasked; the third and fourth letters offer to accept $3.50 while the fifth and sixth letters inform the prospective victim that a mere $2.50 will square the account. The sixth letter ends with the statement "This is final," and, apparently it is, for no further reduction in the price of the treatment is made and neither is the postage sent for the return of the $5 treatment. As it only takes four cents to send the $5 treatment by mail, and as, apparently, the Kellogg company would lose money by sending that four cents for the return of the treatment that was sent unasked the evident value of this $5 package of pills is less than four cents.

Kellogg's Safe Fat Reducer

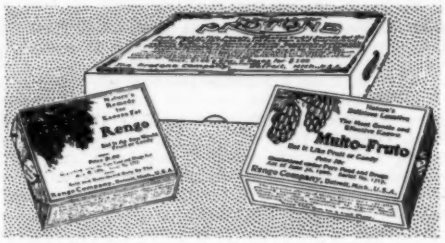
Kellogg's Safe Fat Reducer used to be known as Kellogg's Obesity Food. It is not a food and never was, hence when the Food and Drugs Act went into effect and falsifying became illegal as well as immoral, the name was changed. The preparation has been analyzed at various times and its ingredients, as reported by Dr. Kebler, Chief of the Division of Drugs of the Bureau of Chemistry, at Washington, were:

Thyroid gland. Poke root. Toasted bread.

Before the Food and Drugs Act became operative, Kellogg's Fat Reducer was sold under the claim that "these tablets are not a drug but a food" and further that the preparation "turns fat into muscle." Both statements were unequivocal falsehoods.

Protone

The Protone Company and the Rengo Company are essentially identical concerns. They are both practically owned by Frank J. Kellogg and both managed by Charles H. Shaw. There is nothing in the advertisements to give any hint as to the connection between the two; in fact, the Protone Company advertises its address as the "Protone Building, Detroit." There is no such building. Both concerns occupy rooms on the third floor of a building at 58 Lafayette Avenue. Protone is advertised as the "best flesh restorer in the world" and is said to be "a new triumph in medical science." Like the Sanitone Wafers, a "free fifty cent package" will be sent to all applicants. With the "free" treatment comes the first of the follow-up letters, which explains that the sample box could not be expected to have any special effect as it invariably takes six weeks' treatment to produce the necessary amount of flesh. The "six weeks' treatment"—six boxes—will be sent for $5. The second follow-up letter is a reiteration of the first and still holds to the price of $5 for six boxes; the third letter cuts the price nearly in half, six boxes for $3; the fourth letter urges you to send in $1.66 for the three boxes; the fifth—and last—letter contains an offer to send twelve boxes for $2.50.



Rengo, Protone and Multo-Fruto come in packages as shown in this picture. Protone is supposed to put on flesh; Rengo is supposed to remove it. Multo-Fruto is a laxative.

It is hardly necessary to say that the business of the Protone Company is a fraudulent one and the product itself is a humbug.

Rengo

Rengo used to be known as "Rengo Fruit" and the claim was made that its active constituents were derived from a luscious tropical fruit which grows in clusters similar to grapes. These statements are no longer made specifically although the deceit is still carried out inferentially. The same "free trial treatment" method is used with Rengo as with the other Kellogg products; in fact, the method of exploiting Rengo is practically identical with that used in selling Protone. The prospective purchaser is urged to get six weeks' treatment for $5. As time goes by the price is reduced from six packages for $5 to six packages for $3 and finally an offer is made to send three packages for $1.66.

Greatly reduced reproduction of one of the Rengo circulars. *(By courtesy of the Committee on Interstate and Foreign Commerce.)*

Rengo has been analyzed and, according to Dr. Kebler's analysis, contains:

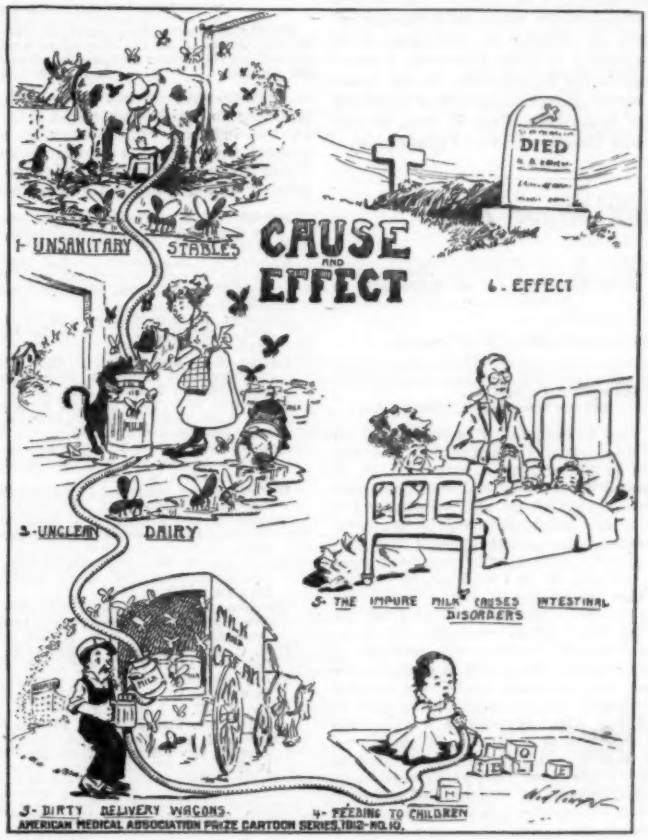
Thyroid gland. Cascara.
Poke root. Cassia fistula.

That the prolonged administration of thyroid gland will sometimes bring about a marked reduction in weight is true but its use even under skilled medical supervision is fraught with danger. It is little less than criminal that ignorant quacks of Kellogg's type should be permitted to distribute indiscriminately drugs that have the potency for harm that is possessed by the thyroid preparations.

THE DETERIORATION OF DRUGS

The investigations of Hale[1] on digitalis, of Edmunds and Hale[2] on ergot, and Dohme[3] on calabar bean, coca and aconite, have revealed the facts that many drug preparations deteriorate, and that drugs are often several years old when they reach the patient. These facts have been emphasized, also, through a report of the Council on Pharmacy and Chemistry dealing with the testing of epinephrin solutions in which the Council recommends that "manufacturers stamp the age of manufacture on the container, to guard against samples which are obviously overaged." Naturally some manufacturers have asserted that the reported deterioration is accidental, or have tried to put the blame on the pharmacist. Some have shifted their previous claims as to strength in such a way as to avoid responsibility. Some firms, however, instead of attempting to dodge responsibility, are doing what ought to be done, and indicate the date of manufacture on the label of those preparations which are prone to deterioration. This, for instance, has been done by Fairchild Bros. & Foster for their Lactic Bacillary Tablets (N. N. R. Supplement, 1912, p. 5); by Hynson, Westcott & Co. in the case of their Bulgara Tablets (N. N. R., 1912, p. 127) and by the H. K. Mulford Co. for their Cornutol (N. N. R. Supplement, 1912, p. 2) and Digitol (N. N. R. Supplement, 1912, p. 3). A serious attempt to overcome deterioration has been made in a recent report by Pittenger and Vanderkleed,[4] of the scientific staff of the H. K. Mulford Co., on methods for the preservation of fluidextract of ergot. They found that a fluidextract of ergot, put up in hermetically sealed vials, kept its strength for a year without the least change.

While most pharmaceutical houses appear indifferent to the demands of modern medicine, there are signs, nevertheless, that scientific pharmacy is making headway.



1. Referred to editorially in THE JOURNAL A. M. A., April 22, 1911, p. 1198.
2. Referred to editorially in THE JOURNAL A. M. A., March 9, 1912, p. 705.
3. Dohme, A. R. L.: Am. Druggist, 1909, lv, 37.
4. Pittenger, P. S., and Vanderkleed, C. E.: Jour. Am. Pharm. Assn., 1912, i, 799.

Correspondence

Stanley's and Livingston's References to Mosquitoes and Miasma

To the Editor:—On reading "The Mystery of Miasma as Darwin Saw It" in THE JOURNAL (August 31, p. 736), I thought the following from two celebrated African explorers would be of interest in this connection:

Henry M. Stanley ("In Darkest Africa," ii, 33) says, in his observations on malaria: "Emin Pasha informed me that he always took a mosquito curtain with him, as he believed that it was an excellent protector against miasmatic exhalations of the night."

Dr. David Livingston ("Livingston's Expedition to the Zambesi and Its Tributaries," 1858-1864) says of the mosquito and malaria: "A large brown sort, called by the Portuguese *mansos* ("tame"), flies straight to its victim and goes to work at once as though it were an invited guest. Some of the small kinds carry uncommonly sharp lancets and very potent poison. 'What would these insects eat if we did not pass this way?' becomes a natural question. The juices of plants and decaying vegetable matter in the mud probably form the natural food of the mosquitoes, and blood is not necessary for their existence. They appear so commonly at malarious spots that their presence may be taken as a hint to man to be off to more healthy localities."

ST. CLOUD COOPER.
Fort Smith, Ark.

Fraudulent Impersonation

To the Editor:—In February, 1912, Dr. C. J. Albaugh of Salt Lake City, Utah, a graduate of the University of Pennsylvania of about 1908, was approached by a man who gave his name as Dr. E. S. Everhart of the class of 1907 (my graduating class), University of Pennsylvania. Thinking that the man's face was familiar and that he was telling the truth, Dr. Albaugh was persuaded to endorse a draft on a Boston bank for $40, which he had to pay. I have reason to believe that other physicians were swindled, especially University of Pennsylvania men. In order to help in the apprehension of the miscreant and to clear my name, please publish this statement in THE JOURNAL.

EDGAR S. EVERHART, Crabtree, Pa.

Goethe's Reference to Pellagra

To the Editor:—It may be of interest to students of pellagra in this country to know that the German poet, Goethe, has a curious reference to what appears to be this disease in his "Letters From Italy," written in 1786. Writing

from the shores of Lake Garda in northern Italy, he says that he was particularly displeased by the pale-brownish complexion of the women, whose features indicated wretchedness. "I imagine," he continues, "that the cause of this sickly condition may be found in the frequent consumption of Indian corn and buckwheat. Both the former, which they also call 'yellow blende,' and the latter, which is called 'black blende,' are ground, made into a thick pap with water, and thus eaten. The Germans pull out the dough and fry it in butter. The Italian Tyrolese, on the contrary, eat it just as it is, often with scrapings of cheese, and do not taste meat throughout the year. This necessarily glues up and stops the alimentary channels, especially with the women and children, and their cachectic complexion is an indication of the malady."

I do not pretend to a wide acquaintance with the literature of pellagra, so it may be that this interesting note by Goethe may not have escaped the attention of others. Goethe has been credited with being ahead of his times in a number of scientific matters, especially the doctrine of evolution; it is therefore additionally noteworthy that he also took a foreglimpse at what many consider to be the cause or one cause of pellagra. I think most neurologists will agree that anything that glues up and stops the alimentary channels must be bad for the nerves. JAMES HENDRIE LLOYD, Philadelphia.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

SENSITIZED LIVING CULTURES IN TYPHOID

To the Editor:—What is meant by the term "sensitized living cultures," referred to in the editorial (THE JOURNAL, August 24, p. 656) in reference to vaccination against typhoid?

HARLAN SHOEMAKER, Shelby, N. C.

ANSWER.—This term is used to designate live cultures of an organism to which has been added an antiserum, and the mixture allowed to remain in contact for a certain length of time, the serum then removed by washing and centrifugation, and the deposit suspended in physiologic salt solution. The sensitized living cultures of typhoid bacilli used by Metchnikoff and Besredka for vaccination against typhoid are prepared as follows: The growth on a twenty-four-hour agar slant of typhoid bacilli is washed off in 1 or 2 c.c. of physiologic salt solution. To this suspension of living bacilli are added about 10 drops of antityphoid serum prepared from the serum of a horse which has been highly immunized by intravenous injections of living typhoid bacilli. The mixture of serum and typhoid bacilli is allowed to remain in contact over night. The next morning the sensitized bacilli are washed twice in physiologic salt solution, the centrifuge being used to remove the supernatant fluid. After the second washing the deposit in the bottom of the tube is suspended in 100 c.c. of physiologic salt solution; from 1 to 1.5 c.c. of this suspension represents the initial dose. The second dose, given eight days later, is 2 or 3 c.c. The bacilli used by Metchnikoff and Besredka have been isolated from man and are of an average virulence for laboratory animals.

PREPARATION OF ACID SOLUTION FOR EXAMINATION OF CEREBROSPINAL FLUID — DIAGNOSTIC VALUE OF TUBERCULIN

To the Editor:—1. Please tell me how to keep and how to prepare the acid solution for the cerebrospinal fluid examination described in THE JOURNAL, Aug. 17, 1912, p. 544.

2. What is the prevailing opinion, if there is any, regarding the use of tuberculin, both as a diagnostic and as a curative agent? Is there any unanimity of opinion whatever? A. B. C.

ANSWER.—1. The solution referred to in the editorial is a 1/300 normal hydrochloric acid solution. This would be prepared by diluting normal hydrochloric acid to 300 times its volume. If one has an accurate preparation of one-tenth normal solution, the best way would be to measure exactly 1 c.c. into a graduated cylinder and fill up with distilled water exactly to 30 c.c.

2. As a diagnostic agent tuberculin is specific in its action. A positive reaction indicates the presence of tuberculosis. It does not distinguish with certainty, however, between an active tuberculous process and one which is latent or practically cured. Inasmuch as adults have, in the majority of cases, experienced tuberculosis, a positive reaction to tuberculin gives no positive evidence of an active tuberculous process unless focal symptoms are produced by the subcutaneous injection. In children, the cutaneous reaction of von Pirquet indicates, as a rule, an active tuberculous process without affording evidence of the location of the lesion. In children over 5 and in adults, a positive reaction may also be due to a latent condition which produces no symptoms and needs no treatment. If focal symptoms are produced by the subcutaneous injection of tuberculin, we have evidence of an active process located in the organ which is the seat of the symptoms. There seems to be no doubt that in properly selected cases, the therapeutic use of tuberculin is a valuable adjunct to other forms of treatment. It must, however, be carefully used by one who is experienced in its application.

ALCOHOL INJECTIONS FOR NEURALGIA

To the Editor:—Please send me the index of articles appearing in THE JOURNAL on the subject of alcohol injections for neuralgia, as well as the names or titles of some works on the subject, giving the technic. A. H. STAPLES, M.D., Washington, D. C.

ANSWER.—We do not find any books devoted to the subject. As to articles, we might refer our correspondent simply to the index to THE JOURNAL, but as the subject is of general interest we cite the following articles. These are found by consulting the index to THE JOURNAL, which is printed in the last issue of each six months.

Patrick, H. T.: Further Report on Deep Injections of Alcohol for Facial Neuralgia, *Lancet-Clinic*, Dec. 28, 1907; abstr. in THE JOURNAL, Jan. 18, 1908, p. 238.

Kiliani, O.: Schlösser's Alcohol Injections for Facial Neuralgia; Sixteen Months' Experience with Fifty-Five Cases; Three Failures, *Med. Rec.*, Jan. 18, 1908; abstr. in THE JOURNAL, Feb. 1, 1908, p. 399.

Ostwalt: Injections of Alcohol in Neuralgia, *Bull. de l'Acad. de méd.*, April 21, 1908; abstr. in THE JOURNAL, June 6, 1908, p. 1947.

Bodine, J. A. and Keller, F. C.: Injections of Alcohol for Relief of Trigeminal Neuralgia, *New York Med. Jour.*, Sept. 26, 1908; abstr. in THE JOURNAL, Oct. 10, 1908, p. 1276.

Alexander, W.: Treatment of Neuralgia with Injections of Alcohol, *Berl. klin. Wchnschr.*, Nov. 3, 1908; abstr. in THE JOURNAL, Jan. 16, 1909, p. 255.

Harris, W.: Alcohol Injection Treatment for Neuralgia and Spasm, *Lancet*, London, May 8, 1909; abstr. in THE JOURNAL, June 5, 1909, p. 1890.

Walker, R. J.: Trifacial Neuralgia Treated by Alcohol Injections, *Jour. Mich. State Med. Soc.*, May, 1909.

Patrick, H. T.. Seventy-Five Cases of Trifacial Neuralgia Treated by Deep Injections of Alcohol, THE JOURNAL, Dec. 11, 1909, p. 1987.

Leszynsky, W. M.. The Alcohol Injection Treatment of Trifacial Neuralgia, *Med. Rec.*, April 30, 1910; abstr. in THE JOURNAL, May 14, 1910, p. 1646.

Offerhaus, H. K.: Technic for Alcohol Injections in Trigeminal Neuralgia, *Arch. f. klin. Chir.*, xcii, No. 1, 1910; abstr. in THE JOURNAL, Aug. 13, 1910, p. 630.

Ball, C. R.: Treatment of Neuralgia by Deep Injections of Alcohol, *Ohio State Med. Jour.*, Aug. 15, 1910.

The Treatment of Neuralgia with Injections of Alcohol, editorial, THE JOURNAL, June 17, 1911, p. 1818.

Blair, V. P.: Notes on Trifacial Neuralgia Treated by Deep Injections, THE JOURNAL, Feb. 4, 1911, p. 335.

Patrick, H. T.: The Technic and Results of Deep Injections of Alcohol for Trifacial Neuralgia, THE JOURNAL, Jan. 20, 1912, p. 155.

CRISCO AND THE ALLEGED IRRITANT EFFECT OF COTTON-SEED OIL

To the Editor:—In an abstract of an article on "Soaps and Their Effects on the Skin" by F. H. Gardiner in the *Edinburgh Medical Journal*, June, 1912, printed in THE JOURNAL (July 27, p. 310), it is stated that cotton-seed oil is irritant to the skin. How about the effect of cotton-seed oil on the stomach? I refer to a lard substitute for cooking purposes, advertised under the name of Crisco.

DR. W. L. MILNER, Cincinnati.

ANSWER.—There is no evidence which proves that properly purified cotton-seed oil acts differently from other edible oils, either on the skin or internally. If cotton-seed oil is found to be irritant to the skin it will, in all probability, be when it contains impurities. While Gardiner, in the abstract of the article referred to, says that cotton-seed oil uncombined is a skin irritant, he admits that it is a matter for further inquiry. We understand that Crisco is a solid synthetic vegetable fat made by chemical means from various vegetable oils, such as peanut oil, corn oil, cocoanut oil and cotton-seed oil, depending on market conditions. This process is a new industry and consists in converting the liquid olein of fats into the solid stearin by absorption of hydrogen. In this reaction each

unsaturated oleic radical of the olein is made to absorb through the action of catalytic agents, we are told, 2 atoms of hydrogen, thereby being converted into the saturated stearic acid radical. An examination of Crisco by the food department of the North Dakota State Board of Health showed that it bears a close resemblance to cotton-seed stearin, although it was not positively identified as such. Our laboratory has not yet investigated the product.

TEMPERATURE IN CEREBROSPINAL MENINGITIS

To the Editor:—I would like an explanation of the peculiar temperature which I have observed in a case of epidemic spinal meningitis. At the first visit I found the temperature by mouth 104.5 F. and pulse 130. At the second visit, within twelve hours of the first, the temperature had dropped to 99.8 and the pulse was 125. The patient was comatose with all the symptoms of meningitis. Serum was given and repeated in twelve hours. On the third day the patient's condition was good; he was mentally bright, but the temperature presented the peculiarity that it was higher in the axilla than in the mouth, being by mouth 101, by axilla 102. This condition of the temperature lasted three days, always higher in the axilla than in the mouth. On the sixth day the temperature was 99.4 both in the mouth and in the axilla and from then on was normal. The patient made a good recovery.

P. NETTLE, M.D., Haverhill, Mass.

ANSWER.—The temperature in cerebrospinal meningitis pursues an irregular course. We find no mention of local variations in temperature. Such variations, however, are not to be wondered at in view of the irritation of the trophic nerves and the tendency to lesions of the skin manifested in this disease.

THE ADDRESSES OF PERIODICALS

To the Editor:—It is possible that others have as poor a memory as I and are unable to locate certain magazines in which are wished-for articles. Would it not be a convenience to run a list? W. M.

ANSWER.—In our department of Current Medical Literature we give the name of the city after the name of the periodical, and by looking back through a few issues of THE JOURNAL one can usually find the name and address of the periodical. In the Guide to Current Medical Literature is printed a list of domestic and foreign periodicals with the street address and the frequency of publication, and the price per year. This "Guide" is a reprint of the index together with the titles that appear in small type from week to week. It was described more fully on advertising page 4 of THE JOURNAL, July 13, 1912.

THE SAMUELS FAKE

To the Editor:—I am seeking some information concerning Prof. H. Samuels' Remedy Company of Wichita, Kan. They claim to have a cure for epilepsy. A patient of mine brought some of their medicine into my office, and I want to be able to tell him that the remedy is nothing but a fake. W. H. LUCKETT, New York.

ANSWER.—The Samuels fraud was exposed in THE JOURNAL (Dec. 24, 1910, p. 2248), and the matter has been reprinted in "Nostrums and Quackery." This impudent humbug has also been the subject of editorial comment in THE JOURNAL (Oct. 21, 1911, p. 1372; March 23, p. 863, and June 1, p. 1693).

LIQUID PETROX

To the Editor:—In THE JOURNAL (Jan. 9, 1909, p. 136) was an item recommending lodin crystals in saponated petrolatum, 30 to 40 grains to an ounce, for the treatment of insect bites and stings. I have never been able to find any other reference to petrolatum saponatum liquidum, and would like to know what it is and how prepared. E. D. BURKHARD, M.D., Del Agua, Colo.

ANSWER.—Petrolatum saponatum liquidum, otherwise known as "liquid petrox," is a National Formulary preparation which is described as "a yellow liquid made by shaking together liquid petrolatum 10 parts, oleic acid 5 parts, and spirit of ammonia 2½ parts." It is practically identical with the preparation known as "liquid vasolinimentum."

TRIKRESOL

To the Editor:—Please inform me what trikresol is. I find it commented on in the journals as a powerful germicide in weak solutions. C. M. GREINER, M.D., Jacksonville, Fla.

ANSWER.—Trikresol is described in New and Nonofficial Remedies, 1912, p. 256, as follows: "A liquid said to consist of: orthocresol, 35 per cent.; metacresol, 40 per cent., and paracresol, 25 per cent. It closely corresponds to cresol, U. S. P."

Cresol is a strong germicide and is the basis of the official germicidal preparation, liquor cresolis compositus.

REQUESTS FOR REPORTS ON VACCINE THERAPY IN TYPHOID

To the Editor:—Will anyone who has used vaccines in treatment of typhoid, in one case or more, kindly communicate to me that fact accompanied by name and address of the reporter? If the results have already been reported, a note of the journal in which they appeared will be sufficient. If they have not been reported, a short blank form will be sent to the physician to be filled out. Due credit will be given in the article to each person making a report. If any physician happens to know of confrères who have had any such cases, it will be appreciated if he sends their names, as they may not happen to read this note. It is hoped that by this means a sufficient number of cases may be collected to settle somewhat definitely the now mooted question whether vaccines are or are not of benefit in typhoid therapy.

W. H. WATTERS, M.D., Boston,
Director of the Department of Pathology and Bacteriology, Evans Institute for Clinical Research.

REACTION IN CHILDREN TO ANTITYPHOID VACCINE

To the Editor:—In THE JOURNAL (August 31, p. 738) is an inquiry regarding antityphoid vaccine in children.

In a circular of instructions, issued for the guidance of Army surgeons, occurs the following reference to the subject: "This prophylaxis is borne well by children and by women, using doses proportionate to the body weight, taking 150 pounds as the unit. Women should not be given the first dose during or near the time of the menstrual period."

We have vaccinated many children, some hundreds, using doses proportioned to the body weight, and find that they have very mild reactions, seldom enough to interfere with their play, and the protection given against infection has been absolute so far as I know.

F. F. RUSSELL, Medical Corps, U. S. Army, Washington, D. C.

Miscellany

Abnormalities of the Testicles.—An imposing monograph on this subject by R. Hofstätter fills the 155 pages of the last *Klinisches Jahrbuch*, xxvi, No. 2. It presents the experiences at the surgical clinic at Vienna, in charge of von Eiselsberg, and reviews the literature, citing 912 articles, with summaries of such of the ninety-five personal cases as are specially mentioned in the general discussion of incompletely descended or misplaced testicles requiring operative measures. Hofstätter noted a familial tendency in a number of cases, but malignant disease of an undescended testicle was encountered in only four. He remarks that no case is known of permanent cure of cancer of an undescended testicle; local recurrence after removal is almost certain. Szymanowski, who had made a special study of retained testicle and who had published several communications on the subject, succumbed himself to multiple metastasis after removal of a cancerous testicle retained in the inguinal region. Irritation from a truss seemed a contributing factor in one of Hofstätter's cases; a double truss had been worn for years and caused much discomfort, sarcoma finally developing. The preferable technic for correcting the various abnormalities is discussed and compared with the final outcome in the experience at the clinic. The ultimate outcome, ascertained in seventy-two of the cases, confirms anew the advantages of restricting operative measures to what is actually indispensable and simplest. When the patient has other anatomic abnormalities, the ultimate result of operative measures is very uncertain. Orchidopexy is promising only under the age of 14 and with favorable conditions; medical massage a few weeks before and after orchidopexy seems to be a valuable adjuvant. Removing the testicle to an intra-abdominal, preperitoneal position is advocated as the best treatment when orchidopexy is not possible, unless the testicle is too much injured, in which case it had better be excised. When the testicle is inside the abdomen, it can be left unmolested.

Work as a Factor in the Cure of Tuberculosis.—Bäumler contributes an article on this subject to the *Zeitschrift für Tuberkulose*, 1912, v, 521. He emphasizes the fact that some occupation is an important factor in the treatment and management of tuberculosis. He says that patients should not be allowed to go from a prolonged rest in a sanatorium directly to resume their former occupation. They should be gradually accustomed to resume work, being given some occupation with gradually increasing demands under the supervision of a physician while still in the sanatorium. Individual care

should be given each patient; otherwise the more energetic will overwork and do themselves more harm than good, while others will fear the effect of any work and shrink from it. Accurate observations must be made as to the effect of definite amounts of work on the temperature, pulse, respiration and physical findings in the lungs. The kind and the amount of work should be adapted to each patient. At the Frimley sanatorium near London the women patients do housework and light work in the garden and poultry yards. For the men there are all sorts of outdoor work ranging from the making of mats, brooms, etc., for the weakest, to the digging of drains and laying of water pipe. They mow the grass, saw wood, cultivate the ground and sow seed. Those going out to a certain employment work at that for three weeks before their discharge. Six years of experience have demonstrated that only about 20 per cent. of the patients can do the heavier kinds of work. In the King Edward VII. Sanatorium 75 per cent. of the patients with beginning tuberculosis do some kind of work; 50 per cent. in the moderately advanced cases, and 21 per cent. in the advanced cases. Reexamination of the patients two years after their discharge from the sanatorium showed 76 per cent. of the patients still living in the first group; 71 per cent. in the second, and 35 per cent. in the third.

Keeping in Touch.—Some members of the dental profession in Muskogee, Okla., placed an announcement in the local papers stating that they would be absent from their offices on certain dates while in attendance on the meeting of their state association. The *Journal of the Oklahoma State Medical Association* uses this as a text for some comments on the duty of the medical as well as the dental profession to keep in touch with the progress in their respective lines by attending meetings of their organizations, all of which we heartily endorse. The *Journal* says: "These are all busy men and their work keeps them closely confined at home and the fact that they deliberately close up shop for the purpose of attending a dental meeting indicates that they know the value of such meetings. We hear so much of the man who is detained at home at the time of the annual meeting by some trivial case, often detained not by the case but by the hope of getting him, that he is becoming tiresome; we also have the man who year after year climbs into the program column yet never delivers himself of the promised paper. Society attendance should be one of the sacred duties and also a pleasure of every member; it is true there are times when it seems impossible to make the necessary arrangements to attend, but usually the greater number of members can arrange some way to be present a part of the time at least. Meeting your coworkers in the profession and exchanging ideas is stimulating to better work and increased endeavor, and you can all make this year an exception; if you are not in the habit of attending, be with us; you will be the gainer by doing so."

Auto-Vaccines in Treatment of Cancer.—Blumenthal reports encouraging results from his and Lewin's experimental work in this line, in the *Zeitschrift für Krebsforschung*, 1912, xi, 427. He states that the sarcomas in rats retrogressed after treatment with autolysates of their own tumors in 80 per cent., and a complete cure was realized in 35 per cent. With alien vaccines the proportions were only 35 and 10 per cent. Toluol as a preservative has the least destructive action on the effectual substances of the various chemicals tested, and the efficiency is retained better when the autolysate is kept in the incubator rather than on ice. Blumenthal says that nothing in his experience to date has proved so effectual as this method of treatment on the rate, a sarcoma the size of a duck egg seeming to melt away after a single subcutaneous injection of the autolysate. The tumors weighed up to 50 gm. on rats weighing 150 gm. By the end of a week or two they were reduced to a third of their original size after which they subsided more gradually. The tumor softens and is gradually absorbed or sloughs away. The best results in the clinic to date with auto-vaccines have been obtained with sarcomas; Rovsing has reported three cured out of seven patients with inoperable sarcoma. Blumenthal keeps the emulsion of tumor substance in the incubator for three days to ensure autolysis. In none of his experiments has any tendency to a return of the tumor been observed. He has been working along these lines since 1902, his position as chief of the Berlin welfare station for cancer patients and suspects giving him exceptional opportunity for cancer research, and he thinks the time is ripe for the introduction of this autolysate method into the treatment of sarcomas. All who have tried the method in any way agree that it is absolutely harmless, he reiterates.

Sanitary Advice for Summer Tourist.—Typhoid fever is a disease which summer tourists frequently contract; therefore, it is always well to bear the avoidance of this disease in mind in choosing a summer residence. Typhoid fever is a disease of man. The germ which causes it leaves the body of the person sick with the disease in his discharges, and when these are taken by a well person a secondary case of the disease is caused. The germs of typhoid fever are carried from the sick to the well in water and food and by flies and the fingers. If one does not take into the system the discharges of another person having typhoid, he does not get typhoid fever. At the present time typhoid fever is essentially a disease of the country, because in the country the opportunities for the transference of the germs of the disease from the sick to the well are greater than they are in the city. Therefore, in the choice of a place to spend the summer one should inquire into the occurrence of typhoid fever in the community in which it is intended to stay, and one should determine the opportunities which exist there for the carrying of the germs of typhoid fever from the sick to the well visitor.—W. C. Rucker in *Pub. Health Reports.*

Bacteriology of Bathing-Pools.—Many investigations have recently been made concerning the infectiousness of bathing-pools following epidemics of skin disease or pink-eye which seem to have their origin in such pools. H. F. J. Porter, in the *Survey*, July 27, gives a summary of the results of investigations of swimming-pools conducted at various places. He quotes Atkins, of the department of bacteriology, Chicago University, who tells of five epidemics following bathing in rivers or in pools filled from rivers where sewage contamination exists. He also reports that five pools whose water-supply was supposed to be clean were the source of cases of eye, ear, throat, intestinal and venereal diseases, including one epidemic of vulvovaginitis which spread among 236 girls using a school swimming-pool. Porter says that, as ordinarily conducted, swimming-pools are little better than cesspools, and clear themselves of bacteria largely on the septic tank-principle. Investigations of public pools at Hamburg and at Purdue, Brown, Chicago and Yale universities, as well as of New York public swimming-pools, show that the impurities are bacterial and chemical. Tests made of Hamburg pools showed fifty-seven microbes per cubic centimeter in water fresh from the tap. After seventy-four persons had bathed in the water it contained 1,800 bacteria per cubic centimeter; after 494 persons, 64,400; after 829 persons had bathed, only 154,000 microbes were found, which illustrates the septic tank principle, or the fact that the microorganisms had reached the maximum which the water could sustain. At Purdue University the water showed 930 microbes per cubic centimeter; after thirty swimmers, previously bathed with a soap shower, had entered the pool, the number increased to 109,200. Another pool first showed thirty-five bacteria, increased after bathing to 190,000 and then to 630,000. In this instance also, bathing was required before entering the pool. The condition of public bathing-pools which are largely used and infrequently emptied and cleaned may be imagined, and these pools are undoubtedly the source of much contagion. The hypochlorite method and the method by the electrolysis of salt have been used for purification in some of the New York pools and at Brown, Purdue and Yale universities and these methods have been found to sterilize the water to the extent of at least 99 per cent. of the bacteria.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ARIZONA: Phoenix, October 7-8. Sec., Dr. John Wix Thomas.

COLORADO: Denver, October 1. Sec., Dr. David A. Strickler, 612 Empire Building.

GEORGIA: Regular, Atlanta, October 8-10. Sec., Dr. C. T. Nolan, Marietta; Homeopathic, Atlanta, October 3. Sec., Dr. R. E. Hinman, 106½ Whitehall St., Atlanta.

IDAHO: Idaho Falls, October 1-2. Sec., Dr. O. J. Allen, Bellevue.

ILLINOIS: Coliseum Annex, Chicago, September 24-26. Sec., Dr. James A. Egan, Springfield.

KANSAS: National Hotel, Topeka, October 8. Sec., Dr. H. A. Dykes, Lebanon.

MICHIGAN: Capitol Bldg., Lansing, October 8-10. Sec., Dr. B. D. Harlson, 504 Washington Arcade, Detroit.

MINNESOTA: State University, Minneapolis October 1. Sec., Dr. Thomas S. McDavitt, Lowry Bldg., St. Paul.

MISSISSIPPI: Capitol, Jackson, October 22-23. Sec., Dr. W. W. Smithson.

MISSOURI: Coates House, Kansas City, October 1-3. Sec., Dr. Frank B. Hiller, Jefferson City.

MONTANA: The Capitol, Helena, October 1, 1912. Sec., Dr. William C. Riddell.

NEW JERSEY: Capitol Bldg., Trenton, October 15-16. Sec., Dr. H. G. Norton.

NEW MEXICO: Santa Fe, October 14. Sec., Dr. W. E. Kaser, East Las Vegas.

OKLAHOMA: Muskogee, October 7-9. Sec., Dr. John W. Duke, Guthrie.

RHODE ISLAND: State House, Providence, October 3. Sec., Dr. Gardner T. Swarts.

UTAH: Salt Lake City, October 7-8. Sec., Dr. G. F. Harding, 310 Templeton Building.

WYOMING: Riverton, October 9-11. Sec., Dr. A. B. Tonkin.

Higher Requirements in New York

As has already been stated,[1] to obtain a medical student's certificate, after Jan. 1, 1913, qualifying for admission to a medical school in New York State, the student must have completed a year's study in physics, biology and inorganic chemistry. A letter from Mr. Augustus S. Downing, First Assistant Commissoner of Education of New York, states that students will not be allowed to carry conditions in these subjects to be made up while they are studying medicine. He says this higher entrance requirement means, as one would infer, that on and after Jan. 1, 1917, all applicants for license to practice medicine in that state must have had at least an equivalent education—whether obtained in a medical college in New York or in another state—which must also have been completed prior to entering on medical study. Mr. Downing says it also means that in 1917 and thereafter New York cannot reciprocate with other states which do not maintain a similar standard.

Arkansas May Report

Dr. F. T. Murphy, secretary of the State Medical Board of the Arkansas Medical Society, reports the written examination held at Little Rock, May 14-15, 1912. The number of subjects examined in was 12; total number of questions asked, 120; percentage required to pass, 75. The total number of candidates examined was 94 of whom 73 passed and 21 failed. Three candidates have been licensed through reciprocity since January, 1912. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Arkansas, (1902) 75; (1912) 75, 75, 75, 75, 75.1, 76, 77.2, 77.2, 77.4, 77.7, 78.6, 79.4, 79.9, 80.6, 81, 81.2, 81.6, 81.9, 82.5, 82.6, 83.6, 83.7, 84.2, 84.6, 85.1, 85.2, 86.6, 86.6, 87.2, 87.9, 89.1, 90.3, 90.3, 90.6, 98.3.		
Bennett Medical College	(1886)	82.8
Chicago College of Medicine and Surgery	(1912)	82.8, 83.4
Barnes Medical College	(1910) 77; (1911)	75.7, 78.6
American Medical College	(1912)	79.2, 82.2
Washington University, St. Louis	(1912)	91.6
St. Louis University	(1912)	89, 90.6
Bellevue Hospital Medical College	(1895)	87.5
University of Pennsylvania	(1910) 80.6; (1911)	89.6
College of Physicians and Surgeons, Memphis	(1910)	84.
University of Tennessee	(1912)	76.6
Memphis Hospital Medical College, (1884) 85.2; (1902) 75.9; (1912) 75.6, 76.3, 81.1, 81.7, 81.7, 82.2, 82.8, 83.8, 84.3, 84.6, 85.9, 88.3.		
Meharry Medical College	(1912)	75, 79.1, 80.3, 83.6
Vanderbilt University	(1910) 80.6; (1911) 77.5; (1912)	83.3

FAILED

University of Arkansas, (1911) 71.4; (1912) 69.8, 65.3, 66.6, 67.6, 69.8, 71.2, 71.6, 71.6.		
College of Physicians and Surgeons, Little Rock	(1910)	49.8, 59.1
Barnes Medical College	(1909)	45.8
St. Louis College of Physicians and Surgeons	(1908)	73.1
American Medical College	(1912)	65.2
Meharry Medical College	(1903) 64.5; (1912)	71.1, 71.7
Vanderbilt University	(1910)	73.8
Memphis Hospital Medical College	(1912)	67.8, 68.7, 71.2

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
College of Physicians and Surgeons, Chicago	(1903)	Illinois
College of Physicians and Surgeons, Baltimore	(1893)	Texas
Creighton Medical College	(1907)	Nebraska

The following questions were asked:

ANATOMY

1. Name the bones of the face, describing the inferior maxillary. 2. Describe the shoulder-joint. 3. Describe the patella, giving muscular and tendinous attachments. 4. Give origin and insertion of trapezius muscle with nerve and blood-supply. 5. Name the parts severed in amputation of leg 4 inches below knee. 6. Give the anatomic divisions of the alimentary canal. 7. Give name and course of vein involved in varicose veins of leg. 8. Describe the circle of Willis. 9. Describe the rectum, giving nerve and blood-supply. 10. Give origin and distribution of pneumogastric nerve.

PHYSIOLOGY

1. Describe a red blood-corpuscle and tell of its functions. 2. Describe a white blood-corpuscle and tell of its functions. 3. Describe the fetal circulation. 4. Describe the circulation through the heart and lungs. 5. Describe a cross-section of the spinal cord in the mid-dorsal region. 6. Describe the fifth cranial nerve. 7. Describe the large intestine and tell of its functions. 8. Name all the known functions of the liver. 9. Describe the kidneys and tell of their functions. 10. Describe the skin and tell of its functions.

PATHOLOGY

1. Define gangrene and name varieties. 2. Describe briefly the changes which take place in atrophy and those which occur in degeneration. 3. What are usual methods of metastatic extension of sarcoma and carcinoma? 4. What conditions are most commonly accompanied with increased blood-pressure and what are the results if this increased pressure is maintained for a considerable time? 5. State briefly the pathologic changes found in pellagra. 6. State briefly the changes that take place in the entire organism as a result of chronic nephritis. 7. What are the principal parts involved in acute anterior poliomyelitis? 8. What are the more common pathologic conditions found in scarlet fever? 9. Give the pathology of chronic gastritis. 10. Give pathology of scorbutus.

THEORY AND PRACTICE OF MEDICINE

1. What complication is likely to appear in the last part of the second week and all of the third week of typhoid fever? 2. Give (a) physical signs of pneumonia; (b) treatment for first stage of lobar pneumonia. 3. (a) At what age do patients usually suffer from catarrhal stomatitis? (b) Give treatment. 4. Give etiology and treatment of acute gonorrhea. 5. Give cause and treatment of epidemic cerebrospinal meningitis, carefully giving detailed technic of treatment. 6. Outline the normal liver dulness. 7. Give diagnosis and treatment of measles. 8. (a) Give the causes of malaria. (b) Name two forms of malarial fever and give the varieties of organisms found in each form. (c) Give treatment for estivo-autumnal form of malarial fever. 9. Give causes, diagnosis and treatment of rickets. 10. What would you do for pulmonary hemorrhage occurring in the course of tuberculosis?

SURGERY

1. What are the causes of ptosis and the remedial measures employed? 2. Give the indication and technic of operation for ligation of common carotid artery. 3. What surgical landmarks of the elbow-joint would aid you by their position in diagnosis between a fracture of the upper end of the radius and a posterior dislocation of the ulna? 4. Describe in detail the operation of lumbar puncture. What are the indications for this operation? 5. Describe amputation at the hip-joint. Give the method of inserting Wyeth's pins. 6. Give etiology, symptoms and treatment of psoas abscess. 7. Describe the following tumors: keloid, papilloma and epithelioma. 8. Define coxa vara; give causes and symptoms. 9. Give indications and contra-indications for salvarsan (606) in treatment of syphilis. Technic of your method of administration. 10. Why do foreign substances such as bullets, splinters, pieces of glass, etc., cause suppuration when embedded in tissues?

CHEMISTRY

1. Give names and symbols of elements in halogen group, stating why so called. 2. Name three alkaloids of opium most used in medicine, giving dose of each. 3. Give test for strychnin and treatment for an overdose. 4. How is potassium iodid made? Give formula. 5. Give chemical formula of lunar caustic, naming antidote. 6. Give chemical composition of urine, stating normal amount of urea excreted in twenty-four hours. 7. What are the enzymes? Give their functions. 8. What are proteids and from what are they derived? 9. What is pyroxilin and how produced? 10. Complete the following formula: $NaNO_3$ plus H_2SO_4=?

BACTERIOLOGY

1. Give the morphology of bacteria. 2. State briefly a method for obtaining a pure culture. 3. What is the difference between active and passive immunity? Give example of each. 4. What are the protective agencies by which the body protects itself against the harmful effects of pathogenic bacteria? 5. What is the difference between an antitoxin and a bacterial vaccine? 6. What are opsonins and what do you understand by the opsonic index? 7. Describe the *Bacillus typhosus* and state briefly how you would differentiate it from the *Bacillus coli communis*. 8. Describe in detail the process of finding tubercle bacilli in urine. 9. In what disease may the pneumococcus be the etiologic factor? 10. Differentiate between the gonococcus and the *Diplococcus intracellularis meningitidis*.

1. THE JOURNAL A. M. A., Sept. 7, 1912, p. 811.

OBSTETRICS

1. How would you determine the death of a fetus *in utero*? 2. Define abortion, miscarriage, premature labor. 3. Name possible sources of puerperal hemorrhages and treatment of each. 4. Define menstruation; age at which it appears; the name given to this period of woman's life; the age at which it ceases. 5. Give the normal duration of pregnancy. Give limit of duration from a medicolegal standpoint. 6. How frequently must you examine the urine during pregnancy? To what particular normal or abnormal constituents would you pay attention in this urinary examination? In the presence of general edema with albumin and casts in urine, which increased in spite of proper treatment, what symptom would lead you to bring on artificial labor? 7. What would lead you to suspect extra-uterine pregnancy? 8. How would you determine that a dead infant had been born alive? 9. In breech presentations describe the different methods of delivering the after-coming head 10. What are the dangers of traction on the child and placenta?

GYNECOLOGY

1. Give the most common causes of sterility in the female. 2. Name the dangers of the use of the uterine sound. 3. Differentiate subinvolution, rectocele, pyosalpinx, cervicitis, metritis, vaginismus. 4. Describe the technic of catheterization. 5. How would you determine whether cancer of cervix is operable or not? 6. What may be revealed by digital vaginal examination? 7. Differential diagnosis of appendicitis and right tubo-ovarian disease? 8. Give symptoms of acute pelvic peritonitis? 9. Give diagnosis symptoms of carcinoma of the breast. 10. Mention three pathologic types of endometritis.

MATERIA MEDICA

1. Define an aperient and give an example. 2. Define a vascular contractor and state uses. 3. Define a vascular dilator and state what drug you consider the most valuable as such. 4. Define a solvent and excipient and give an example of each. 5. What is meant by the physiologic effect of a drug. 6. Name and give dose of the most powerful hydragogue cathartic. 7. Name the three most-used preparations of opium, and state how much of each represents 1 grain of opium. 8. Give primary and secondary effects of carbolic acid when locally applied. 9. What change takes place in morphin after having been kept for some time in solution? 10. Name the principal remedy used to promote the absorption of morbid products.

THERAPEUTICS

1. Differentiate between materia medica and therapeutics. 2. Differentiate between empirical and rational therapeutics. 3. What is meant by suggestive therapeutics? 4. Name a remedy that is especially indicated in the stage of resolution of pneumonia. 5. Name objective and subjective symptoms of phenol poisoning. 6. How would you treat such a case? 7. Name an antidote for each of the following, and state whether this is physiologic or chemical: arsenic, opium, copper and strychnin. 8. What therapeutic agent liberates formaldehyd in the urine? State in what class of cases it is indicated? 9. In case of sudden collapse, name the quickest and most efficient remedy, and give its mode of administration. 10. Describe the technic in the administration of antimeningitis serum.

HYGIENE

1. Describe a thoroughly safe method of disposing of sewage in the absence of water-works. 2. Name the diseases carried by infected water. 3. Define epidemic, endemic and pandemic diseases. 4. What precautions should every consumptive take to prevent spreading the infection? 5. What are the practical necessities of pure food and drug laws? 6. What are the effects of chronic alcoholism? 7. Give full directions for nursing a case of typhoid fever to prevent its extension. 8. Define disinfectant; germicide. 9. Give full directions for ventilating an ordinary bed-room. 10. What is the most common cause of blindness in young children, and how is it to be prevented?

Illinois June Report

Dr. James A. Egan, secretary of the Illinois State Board of Health, reports the written examination held at Springfield, June 13-15, 1912. The number of subjects examined in was 16; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 212, of whom 158 passed and 51 failed. Three candidates did not complete the examination. The following colleges were represented:

PASSED

College	Year Grad.	Total No. Examined.
Bennett Medical College	(1911, 1) (1912, 3)	4
Chicago College of Medicine and Surgery	(1912)	33
Hahnemann Medical College and Hospital, Chicago	(1912)	10
Hering Medical College	(1912)	1
Northwestern University Medical School	(1911, 1) (1912, 41)	42
Rush Medical College	(1912)	13
College of Physicians and Surgeons, Chicago	(1911, 1) (1912, 36)	37
Kentucky School of Medicine	(1903)	1
University of Michigan, Dept. of Med. and Surg.,	(1912)	1
American Medical College	(1912)	2
St. Louis University	(1912)	7
Washington University, St. Louis	(1912)	5
Vanderbilt University	(1912)	1
Milwaukee Medical College	(1912)	1

FAILED

Bennett Medical College	(1912)	1
Chicago College of Medicine and Surgery	(1912)	2
College of Medicine and Surgery, Physio-medical,	(1908, 1) (1909, 1)	2
Hahnemann Medical College and Hospital, Chicago,	(1912)	8
Hering Medical College, Chicago	(1912)	1
National Medical University, Chicago	(1910)	1
Northwestern University Medical School	(1912)	2
Reliance Medical College	(1911)	1
Rush Medical College	(1912)	1
College of Physicians and Surgeons, Chicago,	(1911, 2) (1912, 10)	12
University of Louisville	(1912)	2
American Medical College	(1912)	8
Barnes Medical College,	(1906, 1) (1910, 1) (1911, 1)	3
St. Louis College of Physicians and Surgeons,	(1910)	1
St. Louis University	(1912)	2
Meharry Medical College	(1908)	1
Milwaukee Medical College	(1912)	2
Queen's University, Ontario	(1912)	1

Book Notices

TUMORS OF THE JAWS. By Charles Locke Scudder, M.D., Surgeon to the Massachusetts General Hospital. Cloth. Price, $6 net. Pp. 391, with 353 illustrations. Philadelphia: W. B. Saunders Company, 1912.

While the author has made use of all available general medical literature in the study of this subject, the basis for the monograph is a study of the clinical material at the Massachusetts General Hospital. When it is remembered that tumors of the jaw are not so very frequent, the material at the author's disposal is sufficient to be of considerable value. One of the chief merits of the work is the clear and concise manner in which the author has recorded the facts. The case histories are brief but ample for the purpose. One cannot read the case histories and note the illustrations without being struck by the great frequency with which procrastination has led to the destruction of the patient. Tumors are allowed to grow for months and even years until they produce the most hideous deformities of the jaw and face and become inoperable, or if operable leave a condition after the operation almost worse than death. How long is it going to take the people and particularly the profession, which after all is largely to blame, to learn that there are no good tumors and that all tumors are pathologic and should be removed as soon as possible? If those who read this excellent little volume—and the number should be many—could only learn this simple lesson from it the author might well feel repaid for his efforts.

THE TREATMENT OF SHORTSIGHT. By Prof. Dr. J. Hirschberg, Geh. Med. Rat in Berlin. Translated by G. Lindsay Johnson, M.D., F.R.C.S. Cloth. Price, $1.25. Pp. 123, with 12 illustrations. New York: Rebman Company, 1912.

This is a translation of a lecture on myopia by Professor Hirschberg. It contains a multitude of interesting facts largely based on the experience of the author, and will be read with interest by all ophthalmologists. As a guide to the treatment of myopia, however, it will not be seriously considered by the large majority of Americans. We are not able to make satisfactory studies of our cases without mydriasis. We have learned that astigmatism is an important factor in the production of myopia, and that it cannot be accurately corrected, even in myopes, without complete cycloplegia. If one had not seen the refraction work of the great German clinics, the following statement (p. 17) would seem almost unbelievable: "In the first place the amount of myopia, especially in young subjects, can easily be overestimated. The exact objective measurement by means of the ophthalmoscope, which is the best method to begin the examination with, ought entirely to prevent this error. In the same way the determination of the astigmatism can be made at the same time by this means."

The following quotation discloses a practice entirely at variance with our experience and seems equally archaic (p. 20): "In medium degrees of myopia (from 3.5 to 6 D) entirely or nearly corrected glasses are only to be used for distance purposes, while for near work weak glasses or none at all should be given. Occasionally Franklin's or other bifocal glasses may be prescribed. In the higher grades of myopia (6 D and upward) two separate pairs of glasses should invariably be given, one pair for distance, and another weaker pair for near work. The last should possess about half the power of the former, or a little over."

In this country it is our custom, and has been for many years, to make our patients as nearly emmetropic as possible. We have made no exception of the high myope, and have found that by accurately correcting his astigmatism, and not overcorrecting his myopia, we have made him comfortable. We feel confident that those who have had Hirschberg's experience in the full correction of myopia have ignored astigmatism, overcorrected the myopia, and given too little consideration to the muscle balance.

We are much disappointed to find no reference to American literature.

GASTROSCOPY. With a Description of a New, Easy and Efficient Method of Œsophagogastroscopy, Combining Direct and Indirect Vision, and a Plea for Its Employment by Gastric Experts. By William Hill, B.Sc., M.D., Surgeon for Diseases of the Throat, Nose and Ear, St. Mary's Hospital, London. Cloth. Price, 3 shillings, 6 pence net. Pp. 46, with 47 illustrations. London: John Bale, Sons & Danielsson, 1912.

Hill has written a monograph on gastroscopy and esophagoscopy in which he recommends strongly the combination of direct and indirect or periscopic vision in gastric work. His latest apparatus consists of a Killian esophagogastroscope which he has modified so that it can be inflated, and a Heymann indirect periscopic tube, 9 mm. in diameter and 70 cm. in length, which is passed through the Killian tube. He advises in addition that the operator have at hand, as a matter of convenience, two outer tubes both 60 cm. in length, one being oval in section, with diameters of 13 and 15 mm. and the other a thicker one, circular in section, with a diameter of 16 mm. The new principles involved in the procedure are the direct esophagogastroscopy under inflation and the combination of direct and indirect vision methods by passing the indirect vision periscope through the esophagogastroscope. General information as to the position of the patient, anesthesia, etc., is given, and considerable space is devoted to the appearance of the gastric walls in various diseased conditions. The work is well illustrated and a complete bibliography of gastroscopy is appended.

GONOCOCCAL INFECTION. By Major C. E. Pollock, Royal Army Medical Corps, and Major L. W. Harrison, Royal Army Medical Corps. Cloth. Price, $2. Pp. 222. London: Henry Frowde, 1912.

This book covers the main features of our present clinical knowledge of gonococcal infections. The authors discuss the older-established methods of treatment and the recent developments in our knowledge of gonococcal immunity.

The characteristics of the gonococcus and the pathologic changes which it causes in the body tissues are taken up. Methods of treatment are outlined in a practical way, each being fully described and its therapeutic value discussed. The specific treatment by vaccines is advised especially for the prevention or cure of complications. There is a full explanation of the primary anatomic lesions and complications by extension and general infection. They are separately and fully discussed, with suggested treatment in each instance.

The book is designed for the practitioner who wishes a general up-to-date knowledge of the infections by the gonococcus. The thorough discussion of treatment is perhaps the most prominent feature.

KLINISCHE BACTERIOLOGIE UND PROTOZOENKUNDE. Von Dr. Julius Citron, Assistenten der Medizinischen Klinik der Universität Berlin. Volume v. Paper. Price, 6.40 marks. Pp. 172, with 65 illustrations. Leipsic: Werner Klinkhardt, 1912.

The work is a brief, concise, yet comprehensive treatise on pathogenic bacteriology, written with special emphasis on the practical side of the subject as seen in the large medical clinics of the University of Berlin. The author gives importance to points which pertain to diagnosis, and describes in detail such technical methods as are of practical value. Questions of a purely scientific nature and methods which have no clinical usefulness are given little attention. The work is fully illustrated and contains a number of colored plates in which much care and pains have been used to reproduce faithfully minute details of form and color. The last four chapters are devoted to a consideration of the pathogenic organisms of higher order, including amebas, plasmodia, spirochetes, trypanosomes and other protozoa. The work can be heartily recommended as a practical handbook of clinical bacteriology.

Society Proceedings

COMING MEETINGS

Amer. Assn. for Study, etc., of Infant Mortality, Cleveland, Oct. 2-5.
American Association of Railway Surgeons, Chicago, Oct. 16-18.
Assn. of Military Surgeons of the United States, Baltimore, Oct. 1-4.
Clinical Cong. of Surgeons of North America, New York, Nov. 11-16.
Colorado State Medical Society, Pueblo, Sept. 24-26.
Delaware State Medical Society, Wilmington, Oct. 8.
Indiana State Medical Association, Indianapolis, Oct. 9-11.
Internat. Congress on Hygiene, etc., Washington, D. C., Sept. 23-28.
Kentucky State Medical Association, Louisville, Oct. 29-31.
Medical Association of the Southwest, Hot Springs, Ark., Oct. 8-10.
Mississippi Valley Medical Association, Chicago, Oct. 22-24.
National Association for Study of Pellagra, Columbus, S. C., Oct. 3-4.
Nevada State Medical Association, Reno, Oct. 8-10.
Pennsylvania State Medical Society, Scranton, Sept. 23-26.
Southern Medical Association, Jacksonville, Fla., Nov. 12-14.
Utah State Medical Association, Ogden, Sept. 24-25.
Vermont State Medical Society, Montpelier, Oct. 10-11.
Virginia Medical Society, Norfolk, Oct. 22-25.

Medicolegal

Liability of Manufacturers for Ptomain Poisoning

(Roberts vs. Anheuser-Busch Brewing Association (Mass.), 98 N. E. R. 95)

The Supreme Judicial Court of Massachusetts holds that this case, brought to recover damages for alleged ptomain poisoning from a bottle of Malt Nutrine, whereby the plaintiff's wife was made ill and his young son died, should have been submitted to the jury, instead of a verdict being directed for the defendant. The form of action was what is called in tort, or for a non-contract liability; and not for a breach of warranty. As there was no contractual relation between the plaintiff and the defendant, the Malt Nutrine having been purchased from a druggist, the action against the defendant could not be maintained on the ground that there was any warranty by the defendant of the good qualities of its mixture. There cannot be a warranty where there is no privity of contract.

There was evidence that the defendant had by advertisements represented that its mixture was healthful, free from all injurious substances, beneficial to women and children and to those needing strength and nourishment, and that it was compounded with great care. These representations could be found to have been made as of the defendant's own knowledge. It could be found that the plaintiff had seen some of these advertisements, and the court cannot say that the jury might not have found that his purchase of a bottle of the mixture was on the faith of and in reliance on these representations. There was also evidence, although meager, tending to show that this bottle had been put on the market by the defendant and had come from it through a wholesale dealer to the druggist who sold it to the plaintiff. It also could be found that the sickness of the plaintiff's wife and child was due to ptomain poisoning, caused by the contents of this bottle, though as to the last point it was true that the evidence was but meager. Still it was for the jury to pass on. If this sickness was due to ptomain poisons contained in a bottle which had come from the defendant, there was evidence of the falsity of its representations.

If these facts were found in accordance with the plaintiff's contention, there might have been a verdict in his favor. If the defendant made such representations as of its own knowledge, and put its mixture on the market to come through wholesale and retail dealers to the ultimate consumers, who in reliance on such representations bought and drank the mixture in the manner intended by the defendant, these representations must be regarded as continuous, intended to be accepted and relied on by all who finally should purchase the article for their own consumption. This rule often has been declared.

It was claimed that these representations should not be given an indefinite continuance, and that this bottle either

was or might have been so long out of the possession of the defendant that its representations ought to have been regarded as no longer in force when the plaintiff made his purchase. There may be a lapse of time after which this fairly could be maintained; but it cannot be held as matter of law that such was the case here. The bottle was corked with a stopple which had to be pulled out by the plaintiff after the seal over it had been removed by his wife. This would indicate that any outside contamination had been guarded against, and might tend to relieve a purchaser from any fear of such contamination. This contention presented only a question of fact.

Death From Traumatic Erysipelas

(Caldwell vs. Iowa State Traveling Men's Association (Ia.), 136 N. W. R. 678)

The Supreme Court of Iowa affirms a judgment for $5,000 accident insurance, holding that the death of the assured was caused solely by external, violent and accidental means, where the immediate cause of his death was erysipelas, and the beneficiary contended that the assured received a slight accidental injury on his cheek, causing a slight abrasion of the skin, which resulted in traumatic erysipelas. The attending physician testified to the discovery of the abrasion of the skin. He also testified that in his opinion the disease from which the assured died was wholly infectious, and could not have resulted, except through infection of some wound or abrasion of the skin; that it made its first appearance at the edges of the alleged wound, and that in his opinion it resulted solely from the infection of such wound. This testimony was corroborated by other medical testimony. The court holds that this evidence was sufficient to sustain a finding that the death of the assured was the proximate result of the wound or abrasion referred to. It also holds that the appearance of the wound would clearly support the finding that the cause of the wound was violent and external, while it has been repeatedly held that, in the absence of direct evidence on the subject, a presumption arises that the wound was not intentionally inflicted either by the assured or by another. This presumption is almost the equivalent of a presumption that the wound was inflicted through accidental means, although the authorities stop short of announcing the presumption in this latter form, but simply hold that the presumption first stated is available to the plaintiff as affirmative evidence, and that an inference may be drawn therefrom by the triers of fact that the wound was caused by accidental means as the only other alternative.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Medical Sciences, Philadelphia

September, CXLIV, No. 3, pp. 313-468

1 *Endocardial Lesions of Subacute Bacterial Endocarditis. E. Libman, New York.
2 *Glomerular Lesions of Subacute Bacterial Endocarditis. G. Baehr, New York.
3 Relation of Hypertension to Urinary Excretion. C. H. Lawrence, Boston.
4 *Brain Lesions Produced by Electricity as Observed After Legal Electrocution. E. A. Spitzka and H. E. Radasch, Philadelphia.
5 Hospitals and Typhoid Carriers. J. W. Brannan, New York.
6 *Therapeutic Use of Vaccines in Typhoid. J. G. Callison, New York.
7 Stenosis of Duodenum; Statistical Study With Report of New Case. J. M. Anders, Philadelphia.
8 *Complement-Fixation Test in Differential Diagnosis of Acute and Chronic Gonococcic Arthritis. H. J. Schwartz, New York.
9 Critical Commentary on Free Eye Infirmary, With Suggestions as to Reforms in Ophthalmic Hospitals, Dispensaries and Schools. H. V. Würdemann, Seattle, Wash.
10 Treatment of Locomotor Ataxia. E. L. Hunt, New York.
11 *Tuberculin Therapy in Surgical Tuberculosis. T. W. Hastings, New York.

1. **Endocardial Lesions of Subacute Bacterial Endocarditis.**—Eighty-nine cases of subacute bacterial endocarditis have been studied carefully by Libman. Blood-cultures were made in seventy-five of seventy-eight active cases. The other three cases were typical clinically, one patient passed out of observation and the other two died, autopsies not being obtainable. Organisms were recovered from the blood of seventy-three of the seventy-five cultured cases. In seventy-one cases the cocci characteristic of the disease were obtained, and in four the influenza bacillus. The symptoms and lesions found in the latter group were practically the same as those found in the former, except that thus far the glomerular lesions in the coccus cases have not been discovered in the kidneys of the influenzal cases that have come to post mortem examination. There were two supposedly active cases in which the blood-cultures were negative. Besides the seventy-seven active cases, Libman has observed eleven cases which he believes belong in the group of subacute bacterial endocarditis, but in which the lesions were found free from pathogenic bacteria. In ten of the cases blood-cultures were made during life (in a few anaerobically), and no bacteria were found. In one case as many as nine cultures were made during a period of ten months, all with negative results.

A study of frequency of involvement of the valves, the left auricle and the chordæ in the hearts from thirty-four cases of the disease in which the blood-cultures were positive during life was made with the following results:

Auricle, mitral valve, and chordæ	17 cases
Auricle, mitral valve, chordæ, and aortic valve	5 cases
Auricle and mitral valve	2 cases
Mitral valve and chordæ	1 case
Aortic valve only	3 cases
Aortic valve, chordæ, and aortic flap of mitral	4 cases
Mitral valve, chordæ, and aortic valve	1 case
Auricle, mitral and aortic valves	1 case
Total	34 cases

The auricle was involved twenty-five times, the mitral valve twenty-seven times, the chordæ twenty-eight times, and the aortic valve nine times. These eleven cases, Libman believes, are cases in which patients who had a subacute bacterial endocarditis overcame the infecting agent without their having been seen at a time when the infection was still active. In one, poorly staining cocci were still seen in small numbers in part of the lesions. In seven of the cases the mitral valve was involved in a way seen practically only in subacute bacterial endocarditis. In the remaining three cases only the aortic valve was involved and in it large calcareous lesions were found. In all of these he has the proof afforded by the presence of the glomerular lesions that they were almost surely the result of infections by the endocarditis coccus.

2. **Glomerular Lesions of Subacute Bacterial Endocarditis.**—In the kidneys of nearly all individuals dying during the course of subacute bacterial endocarditis, Baehr says, there exists a pathologic lesion which affects one or more loops of a variable proportion of the glomeruli. The number of involved loops of a glomerular tuft varies in the different diseased Malpighian bodies. Furthermore, there is a great variation in the relative number of glomeruli involved in different parts of the kidneys. The uninvolved loops of involved glomeruli show no changes. The very earliest stage of the process appears to consist of a swelling of the glomerular epithelium in the involved loops. This may be situated at any portion of the glomerular tuft. If the lesion is large, a segment of the glomerulus, or even the entire Malpighian body, may be involved by the process. At first the outlines of the swollen epithelial cells in the diseased segment can be made out. Subsequently they are lost and the entire structure is fused into a homogeneous, finely granular material. In this mass some of the nuclei are fading or undergoing karyorrhexis, although a few may still remain fairly well preserved. If the deep staining, finely granular mass is situated at the periphery of the glomerulus, the epithelium of the visceral layer of Bowman's capsule over the involved part is usually found to be swollen, proliferating and desquamating into the capsular space.

When the mass with its overlying epithelium comes into contact with the parietal layer of Bowman's capsule, the latter then probably also takes a share in the desquamation,

and perhaps in the proliferation. Eventually this epithelium undergoes necrosis, as did the previously swollen epithelium of the involved loops of the glomerulus. It also becomes part of the homogeneous, finely granular mass which now fuses with the parietal layer of Bowman's capsule. At this stage, the mass may become flattened out over the area of fusion with Bowman's capsule in a crescentic fashion. The homogeneous cellular material is seen to be traversed by a very delicate network. Eventually the entire mass becomes thoroughly organized.

The healed stage of the lesion presents the following picture: A hyaline mass having roughly the shape of a truncated pyramid; its base fused with the adjacent interstitial tissue; its mesial aspect adherent to the remainder of the glomerulus; its sides clothed by a reflection from the adjacent epithelium of Bowman's capsule. The typical lesions were found in twenty-three of the twenty-five cases due to the endocarditis coccus. In two cases, one of which was due to the influenza bacillus and one to the gonococcus, the lesions were not found. The percentage of glomeruli involved varied from 2 to 75 per cent. in various cases.

4. **Brain Lesions Produced by Electricity.**—Investigations by Spitzka and Radasch on the brains of five criminals executed by electricity revealed at all levels peculiar areas, varying in size and number. These areas are circular in outline, ranging in diameter from 25 to 300 microns. The most marked areas measure from 150 to 200 microns. They are seen to consist of two portions, a central rarified part and a peripheral condensed zone. The most characteristic areas contain a blood-vessel (capillary or precapillary), surrounded by a delicate small-meshed reticulum representing the central four-fifths of the area. The fibrils of the reticulum are, in the main, radially directed, and nuclei are sometimes observed along this course. The peripheral zone surrounding the central portion in a ring-like manner appears to be condensed, staining more deeply than the surrounding unaffected tissue, and is sometimes seen to be composed of circularly arranged strata, which are usually free from nuclei. The head-like arrangement of the lesions along the blood-vessels, the condensation zone limiting each lesion and the radially disposed fibers and torn tissue would seem to indicate a sudden liberation of the bubbles of gas due to the electrolytic properties of the current as it seeks the paths of the least resistance along the vessels. The maximum number of lesions are found in the most constricted parts of the brain stem in the path of the current, and are most numerous along the longitudinal fiber tracts and blood-vessels.

6. **Use of Vaccines in Typhoid.**—Thirty-eight patients with typhoid have been treated with vaccines by Callison. In these thirty-eight cases there have been five deaths and one relapse, with an unusual absence of complications. The causes of death were a femoral phlebitis and its sequelæ, a double lobar pneumonia, a meningococcus septicemia, a ruptured spleen and asthenia. The dosage Callison has been using in this series of cases was an initial injection of 500,000,000, repeated at four-day intervals as long as required, and increasing the dose 100,000,000 at each subsequent injection. He has continued using a stock vaccine, as it causes less local reaction and is less toxic than an autogenous vaccine. It is as efficient a producer of bactericidal substances (opsonins and bacteriolysins) as the more recently isolated strains, and has fewer undersirable side actions.

8. **Fixation in Gonococcic Arthritis.**—In Schwartz's opinion a positive complement-fixation test is an absolute indication of gonococcic infection somewhere in the body. A positive reaction should not be expected earlier than about the beginning of the fourth week from the onset of the infection. A positive reaction is obtained in a certain number of cases of gonorrhea where bacteriologic examination fails. This is especially the case in women. A negative reaction does not exclude gonococcic infection, but is to be given some weight on account of the reasons detailed earlier. It is to be remembered that gonorrhea is a common affection in both sexes. This fact should not be lost sight of in interpreting a positive result in connection with any given case of arthritis. A person may suffer from two infections: for example, acute rheumatic fever and gonorrhea, as shown in Schwartz's records. Interpreted, however, in the light of the clinical history and clinical gndings it seems to Schwartz that the complement-fixation test should prove an addition to our means of diagnosis between gonococcus arthritis and other form of arthritis of obscure etiology.

11. **Tuberculin Therapy in Surgical Tuberculosis.**—From the nature of the process of active immunization, Hastings says, one should expect the results with tuberculin in surgical tuberculosis to be much the same with all anatomic types, and such is the fact. The one modifying factor, aside from that of the individual's response, is that of secondary infection, and one may state that "closed" cases, in the sense of Petruschky, do well; and often cases vary according to the summation of toxic effects from the tubercle bacillus and the secondary invaders. In surgical conditions the secondary invader is not so to be feared as in the pulmonary and pleural conditions, and the secondary invasions in surgical conditions always call for some other than tuberculin treatment. Hastings believes that in Koch's tuberculin we have a valuable agent for treating incipient tuberculosis; and until specific therapy has been tried one should never despair of a seemingly hopeless case.

American Journal of Public Health, New York

August, II, No. 8, pp. 591-662

12 Municipal Disinfection in New York City as Recently Reorganized. M. C. Schroeder, New York.
13 Device for Keeping Garbage Cans in Place. M. E. Connor, Ancon, C. Z.
14 Tuberculosis and Quarantine. A. G. Domingues, Havana, Cuba.

Cleveland Medical Journal

August, XI, No. 8, pp. 551-630

15 Undescended Testicle. V. C. Rowland, Cleveland.
16 Visit to Some Hospitals of Italy. S. W. Kelley, Cleveland.
17 Work of Division of Tuberculosis of Cleveland Health Department. R. H. Bishop, Cleveland.
18 *Oral Sepsis With Special Reference to Antiseptic Properties of Tobacco. W. D. Fullerton, Cleveland.

18. **Oral Sepsis.**—Fullerton says that the smoking or chewing of tobacco, the former more so than the latter, is decidedly germicidal in laboratory experiments, though the results of examinations of a small number of mouths would seem to give the use of tobacco somewhat less, though noticeable, effects practically; by exercise of the teeth it helps their nutrition and eliminates pathologic organisms, both by destroying them *in situ* and by removing them in the expectoration. Of seventy-four males examined, twenty-three, or 31 per cent., did not use tobacco in any form; twenty-six, or 35 per cent., smoked only; nine, or 12 per cent., chewed only; sixteen, or 22 per cent., both smoked and chewed. Of this number only twenty-three, or 31 per cent, took any care of their teeth. Of those who brushed their teeth, 43 per cent. showed a gingivitis marginalis as compared with 82 per cent. who took no care of their teeth. Of those who did not use tobacco, 74 per cent. showed pus under their gums, as did 69 per cent. who smoked, 77 per cent. who chewed and 68 per cent. who smoked and chewed. Fullerton says that these results, though bearing out in the most part that tobacco is toxic to bacteria, are not nearly so striking as one might expect, and one might with considerable certainty argue that, with the same individuals and the same lack of care, the conditions might be much worse without the use of tobacco. Of twenty-two women, none of whom used tobacco, twenty, or 90 per cent., brushed their teeth, 50 per cent. showing a gingivitis.

Mississippi Medical Monthly, Vicksburg

September, XVII, No. 5, pp. 89-110

19 Salvarsan: Its Administration. D. C. La Verne, Senatobia.
20 Some Puzzling Thoracic Symptoms in Acute Malaria. S. W. Glass, Dublin.
21 Cerebrospinal Meningitis. H. S. Capps, Gulfport.
22 Pellagra. D. J. Rush, Philadelphia.

New Mexico Medical Journal, Las Cruces

August, VIII, No. 5, pp. 329-352

23 Roswell; Metropolis of Eastern New Mexico. H. A. Ingalls, Roswell.
24 Some Blood-Pressure Observations. C. Beeson, Roswell.
25 Cesarean Section for Albuminuria. F. T B. Fest, Las Vegas.

Maryland Medical Journal, Baltimore

September, LV, No. 9, pp. 209-234

26 *Massacre of Tonsil. J. N. Mackenzie, Baltimore.
27 Typhoid and Way to Prevent It. C. W. G. Rohrer, Baltimore.

26. **Massacre of Tonsil.**—We are, says Mackenzie, going through to-day in laryngology what the gynecologist went through years ago. The ovaries were removed then under as little provocation as the tonsils are being taken out today. The so-called "tonsil question" is one of simplicity and comparatively small dimensions when viewed in the light of sanity and common sense, but it has been made to assume formidable proportions by unsound observation and reckless surgery. It has come to a point when it is not only a burning question to the profession, but also to the public. This senseless, ruthless destruction of the tonsil is often so far-reaching and enduring in its evil results that it is becoming each day a greater menace to the public good. Until we have more definite knowledge concerning the use of the tonsils no one can tell the damage done to the children of the present generation or the influence of wholesale tonsil removal on the children of the next.

Whatever a more exact examination of the tonsil may reveal as to its function, Mackenzie believes it was placed in the throat, not with evil, but with good intent; to serve a teleologic rather than a pathologic purpose; that its mission is physiologic, and that it was not designed by Nature as a natural, easy and convenient avenue of infection. It is, of course, not open to debate that there are a multitude of conditions that call for partial destruction or more or less complete removal of the tonsils, but radical operation should not be done without definite and sufficient reason. The tonsil should not be sacrificed any more than any other organ without convincing evidence that it is the cause of the disease to be removed. Hasty theory, which sees in destruction of the tonsil the only means of treatment, and which, unmindful of the lymphatic and other anatomic arrangement of the neighboring structures and their physiology, and which, losing sight of the further fact that it is hard, if not impossible, to determine during life that the tonsil is the only avenue of entrance in a given infection, throws differential diagnosis to the winds, should have no part in modern scientific laryngology.

Journal of Nervous and Mental Disease, Lancaster, Pa.

September, XXXIX, No. 9, pp. 577-647

28 Case of Alexia and Hemianopsia: With Localization of Such Lesions. L. Casamajor and M. J. Karpas, New York.
29 Syphilis a Possible Cause of Systemic Degeneration of Motor Tract. W. G. Spiller, Philadelphia.
30 Progressive Muscular Atrophy With Necropsy, Probably Syphilitic in Origin. S. Leopold, Philadelphia.

American Journal of Urology, New York

August, VIII, No. 8, pp. 399-453

31 Phenolsulphonephthalein Test in Surgery of Genito-Urinary Tract. L. E. Schmidt and H. L. Kretschmer, Chicago.
32 Intravenous Administration of Sublimate, Hyrgolum, Oxycyanid and Sublamin in Salvarsan Relapse. M. L. Heidingsfeld, Cincinnati.

Archives of Pediatrics, New York

August, XXIX, No. 8, pp. 561-640

33 *Typhoid in Infancy. Analysis of Seventy-Five Cases. J. P. C. Griffith, Philadelphia.
34 *Vaccines in Treatment of Pertussis. M. Ladd, Boston.
35 Case of Mastoiditis Followed by General Sepsis, With Symptoms of Tetanus. M. Nicoll and F. S. Fielder, New York.
36 Tuberculosis in Young Children. A. Hymanson, New York.
37 Mental Deficiency. M. S. Reuben, New York.
38 Certified Milk. H. L. Coit, Newark, N. J.

33. Abstracted in THE JOURNAL, July 6, p. 61.

34. **Vaccines in Treatment of Pertussis.**—The use of pertussis vaccine in nine cases leads Ladd to the belief that the treatment is worthy of further trial, using larger doses and at more frequent intervals than in his series. The cases were clinically typical cases of pertussis, as the disease occurs in infants and young children. In every instance a characteristic paroxysm occurred in the clinic. The blood-counts showing the relative increase in mononuclear cells made the clinical diagnosis reasonably certain. A minimum interval of five days was allowed to elapse between injections. Sometimes, owing to shortage of material or negligence on the part of the mothers in bringing their children to report, the interval was increased to ten days or two weeks, or even longer. It was soon evident that no harmful effects were produced. There were no general constitutional symptoms nor local reaction at the site of the injections.

In the early cases it was soon found to be safe to give 20,000,000 (1 c.c.) at each treatment, even to an infant. Later as much as 40,000,000 (2 c.c.) were injected at one time with no ill effects. One infant of seven weeks received, on May 18, 3,000,000; on June 9, 12,000,000; on June 14, 10,000,000. This was the youngest child treated. It recovered quickly in three and one-half weeks. The blood was not examined in this instance. Injections of 40,000,000 were given four times to babies nine months of age. In another series of cases Ladd would be inclined to start with this dose and repeat at intervals of five days and perhaps oftener. Considerably larger doses could probably be given in the course of this disease, possibly with more marked effects. No other treatment was given than the vaccine. In general, it appeared that after three injections the severity and number of paroxysms diminished. All of the children recovered without complications on an average in five weeks after beginning treatment. On an average the cases were in the third week of the disease when the vaccines were started.

Kentucky Medical Journal, Bowling Green

September, X, No. 17, pp. 667-718

39 Kidney Infection. S. H. Ridgway, Shepherdsville.
40 Stomach Troubles and Their Management by General Practitioner. G. G. Thornton, Lebanon.
41 Epitome of Medical Achievements. W. J. Shacklette, Nolin.
42 Lobar Pneumonia. J. W. Acton, Glasgow.
43 Address of Welcome to Annual School of County and City Health Officers. M. Weissinger, Louisville.
44 Competent, All-Time, Well-Paid, Local Health Officers as Investment. J. N. McCormack, Bowling Green.
45 Problems and Difficulties of Health Officer. M. W. Steele, Corbin; C. W. Kavanaugh, Lawrenceburg; B. W. Smock, Louisville; H. D. Rodman, Bardstown; A. V. Menefee, Williamstown; J. B. Kinnaird, Lancaster; J. G. Foley, Pineville; J. W. Kincaid, Catlettsburg; W. Byrne, Russellville; T. A. Frazer, Marion; J. F. Young, Monticello; U. L. Taylor, Columbia; A. W. Walden, Owingsville; J. A. Yates, Edmonton; J. L. Atkinson, Campbellsville; E. B. McMorries, Clinton.

New Orleans Medical and Surgical Journal

September, LXC, No. 3, pp. 185-264

46 Summary of Literature on Etiology of Beriberi. J. M. Swan, Rochester, N. Y.
47 *Investigation of Louisiana Rice with Reference to Etiology of Beriberi. C. Wellman, C. C. Bass, A. C. Eustis, New Orleans.
48 *Public Health Aspect of Beriberi. R. H. Creel, U. S. P. H. S.
49 *Sodium Citrate in Treatment of Pneumonia. W. H. Weaver, Ocean Springs, Miss.
50 Congenital Syphilis. F. T. Brown, New Orleans.
51 Eradication of Malaria. J. H. White, New Orleans.

47 and 48. Abstracted in THE JOURNAL, July 27, p. 298.

49. **Sodium-Citrate in Pneumonia.**—Since most cases of pneumonia are seen during the first three days of the illness, Weaver says, if treatment is immediately instituted by full doses of sodium citrate, an immediate and rapid lysis should be obtained. If the pulse and temperature remain stationary for from twelve to twenty-four hours the dose of sodium citrate may be increased until we have a falling pulse and temperature, when the dose may be considered correct for that patient. This dosage should be continued night and day until the lung has entirely cleared up. In some cases lysis may be delayed and slower than in others, but so long as we get any improvement in conditions, or stay in the progress of the disease for the first twenty-four to forty-eight hours, we may confidently expect that the third day will inaugurate a more or less rapid lysis, the character of the lysis depending probably on the permeability of the hepatized lung tissue, as well as the natural plus the temporarily increased defensive elements in the blood. Fortunately bronchopneumonia is as amenable to the treatment as is lobar pneumonia. Other means, such as strapping for pleurisy and bathing for high temperature are not to be neglected if symptoms call for them.

Journal of Oklahoma State Medical Association, Muskogee

September, V, No. 4, pp. 125-179

52 One Hundred Consecutive Laparotomies With One Death. T. M. Aderhold, El Reno.
53 Venereal Infections With Reference to Criminal, Mental and Nervous Disturbances. C. R. Day, Oklahoma City.

54 Postponement of Physiologic Arteriosclerosis. A. D. Young, Oklahoma City.
55 Etiology and Treatment of Nasal Catarrh. W. B. Newton, Muskogee.
56 Ischemic Paralysis. R. L. Hull, Oklahoma City.
57 Serous Effusions. Pericarditis With Effusions. M. H. Foster, Oktaha.
58 Outbreak of Mania Associated With Malaria and Uncinariasis. Infection. C. D. Blachly, Norman.

Bulletin of Johns Hopkins Hospital, Baltimore

September, XXIII, No. 259, pp. 255-288

59 *Hexamethylenamin in Treatment of Systemic Infections With Special Emphasis on its Use as a Prophylactic. S. J. Crowe, Baltimore.
60 *Effect of Jaundice, Produced by Ligation of Ductus Choledochus, on Pancreatic Secretion. T. R. Brown, Baltimore.
61 Present Status of Anti-Typhoid Campaign in Germany. W. W. Ford, Baltimore.
62 Seasonal Variations in Bacterial Flora of Baltimore City Water. W. W. Ford and E. M. Watson, Baltimore.
63 Midwives of Anne Arundel County, Maryland. H. Jeidell and W. M. Fricke.
64 Undescended Cecum in Sub-Hepatic Position. J. M. Flint, New Haven, Conn.

59. **Hexamethylenamin in Systemic Infections.**—Crowe calls attention to the fact that this drug is of value, not only as a therapeutic, but especially as a prophylacitic, measure in a great variety of maladies. Among the conditions which may be favorably influenced by the administration of hexamethylenamin, the following are the most important: (1) Infections of the genito-urinary tract and typhoid bacilluria. (2) Infections of the bile-ducts and gall-bladder. (3) Infections of the cerebrospinal system, poliomyelitis, epidemic meningitis, meningeal infections following injuries or infectious processes elsewhere in the body. (4) Infections of the respiratory tract, including infections of the paranasal sinuses and ears, acute rhinitis, acute tonsillitis and some forms of bronchitis. (In lobar pneumonia and pulmonary tuberculosis it is doubtful whether this drug is of any value.)

Hexamethylenamin, given either by mouth or by rectum, makes its appearance in the bile and in the urine almost simultaneously. Provided large doses of hexamethylenamin are given, at least 75 grains a day, this drug appears in the gall-bladder in a concentration which suffices to render the bile an unsuitable media for the growth of bacteria.

Since 1908 it has been a routine measure in the Johns Hopkins Hospital to administer hexamethylenamin in all cases in which a meningeal infection is a possible or threatened complication. There have been twenty cases of compound fracture of the vault, similar in that there was a laceration of the meninges and underlying cortex in each instance. In eight of the earlier cases hexamethylenamin was not given and the mortality from infection was 50 per cent. To each of the remaining twelve cases, hexamethylenamin was given immediately after the injury, and at frequent intervals until all danger of infection was past; ten of these patients recovered, while two succumbed with a pneumococcal meningitis.

There have been forty cases of hypophysis tumor in which the neighborhood symptoms were sufficiently marked to warrant an operative interference. In each case hexamethylenamin has been administered as a prophylactic measure; from 40 to 60 grains are given during the twenty-four hours preceding the operation, and even larger amounts for several days after the operation. In thirty-one cases there were no postoperative complications whatever; in nine cases there was an escape of cerebrospinal fluid through the nose for several days following the operation, together with an elevation of temperature, headache, slight stiffness of the neck and other symptoms suggesting a meningeal infection. Three of these patients finally succumbed with meningitis; the other six patients, however, recovered.

This drug is often of the greatest value in aborting an acute coryza, provided it be given in large doses and during the earliest stages of the infection. There have been but very few instances in which toxic symptoms have resulted from the administration of large doses of hexamethylenamin, although from 200 to 300 grains daily for four or five days were given; even in children, doses of 100 or 125 grains a day have produced no irritative symptoms, provided it was possible to administer the drug sufficiently diluted with water.

They have abandoned the custom of giving this drug in doses of 10 to 15 grains at stated intervals, since it is often difficult to induce the patient to take, at one time, the 250 or 300 c.c. of water in which doses of this amount should always be dissolved. In case the patient is very ill, the drug is usually administered per rectum, from 50 to 100 grains being dissolved in a liter of salt solution and allowed to slowly flow into the bowel, a drop at a time. In no case has there been the slightest evidence of undue irritation of the intestinal mucosa, when the drug is thus given, and as a rule the salt solutions are well absorbed, even after one or two weeks of almost continuous administration by this method. If the patient is able to take nourishment by mouth, from 2 to 3 grains of hexamethylenamin are added to every ounce of liquid, since the drug is practically tasteless, and it is often possible, in this way, to give from 60 to 100 grains a day without the patient's knowledge and without producing gastric or renal irritation.

In ninety-five cases in which the average dose of hexamethylenamin was 75 grains a day for ten days, painful micturition and hematuria occurred in seven instances. Two of these cases were fatal meningeal infections of otitic origin; the patients were desperately ill when brought to the hospital, and the drug was given in unusually large amounts with the hope of checking the progress of the infection. A third was a case of tuberculous meningitis in a child seven years of age. In each of these cases there was a well marked hematuria, but at the post-mortem examination it was apparent that it had its origin from the mucous membrane of the bladder and was not due to an acute renal irritation. In the remaining four cases the urine rapidly became normal on the withdrawal of the drug.

Although there are undoubtedly certain individuals who have a personal idiosyncrasy for hexamethylenamin, and even a small dose may cause uncomfortable symptoms, such as a skin rash, catarrh of the mucous membranes, gastric or urinary irritation, Crowe says, this fact does not invalidate the use of the drug. Aside from personal idiosyncrasies the experience has been that untoward symptoms usually arise as a result of insufficient dilution, and such symptoms have invariably disappeared on withdrawing the drug and producing active diuresis by forcing liquids.

60. **Effect of Jaundice on Pancreatic Secretion.**—A series of experiments made by Brown showed that after the ligation of the gall-duct and the consequent production of a rapidly developing jaundice there is a marked reversal in the pancreatic juice both as regards amount and ferment-richness after the different types of foods: there is more juice with milk than with meat, and where before the trypsin or the diastase showed a definite increase, now a decrease would be likely to be met with, and vice versa. The removal of the bile from the intestine after the previous withdrawal of the major portion of the pancreatic secretion produces in a very short time a rapid loss of weight and strength, ending in sudden death, and emphasizes anew the great importance of the bile as a partial substitute for the pancreatic secretion, if the latter is absent or markedly diminished.

Journal-Lancet, Minneapolis

September 1, XXXII, No. 17, pp. 451-478

65 Some Things Practical in Serodiagnosis. C. E. Riggs, St. Paul, Minn.
66 Functional Results in Prostatectomy. E. S. Judd, Rochester, Minn.
67 Rectosigmoidoscopy. A. C. Strachauer, Minneapolis.
68 Case of Traumatic Incontinence of Urine and Congenital Absence of Vagina, With Operation and Suggestions for Improved Technic. J. E. Engstad, Minneapolis.

New York Medical Journal

September 7, XCVI, No. 10, pp. 465-512

69 Yellow Fever a Strictly Human Disease. A. Agramonte, Havana, Cuba.
70 *Pneumonia in Children. H. Lowenburg, Philadelphia.
71 Wassermann Test. D. M. Kaplan, New York.
72 Vesical Neoplasms. J. F. McCarthy, New York.
73 Ten Sex Talks to Girls. I. D. Steinhardt, New York.
74 Endourethral Chancre. E. H. Marsh, New York.
75 *Completed Treatment for Tonsillitis. F. Griffith, New York.
76 Massive Tuberculosis of Liver. D. Felberbaum, New York.
77 Cinematograph as Aid to Medical Education and Research. R. Matas, New Orleans.

70. **Pneumonia in Children.**—Lowenburg has employed the hydrochlorid of quinin, hypodermically, in doses of 1 grain, with some probable benefit. The same is true of the natural preparation of sodium salicylate, grain ½ to grains 2; sodium benzoate, grains 2 to 3; hexamethylenamin, grains 2 to 3; and euquinin (quinin ethyl carbonate), grain ½ to 2. All these measures are designed to control temperature and combat infection. With antipneumococcic serum and bacterins he has had no experience. In strong children suffering from the second stage of a diffused acute bronchitis, with mucus and many râles, who are "rattling" in the chest, or in cases of bronchopneumonia where the same condition prevails, where the children are said to be "choked up," Lowenburg has adopted the following plan of treatment with much success, based on the principle that what these patients need is drainage and something to control the inflammatory process as much as possible, thereby preventing the large reaccumulation of mucus. With this in view he seeks to empty the bronchial tubes in two ways, by the mouth and by the bowels, and to control further production of mucus through drugs which act on the secretory apparatus and to apply antiseptics directly to the mucous membrane. These patients first receive from ½ to 2 teaspoonfuls of castor oil within one to one and one-half hour; they get 30 drops of ipecac and 15 minims of the wine of antimony every hour until emesis occurs, but not more than three doses are given. They then receive tincture of belladonna and the aromatic spirit of ammonia. The first is given in 5 minim doses every four hours, gradually increased to 15 or 20 drops, and the latter is given in 5 to 10 minim doses. Every other hour inhalations of the following are given: Oil of eucalyptus, 4 drams; beechwood creosote, 4 drams; oil of turpentine, enough to make four ounces. From 1 to 2 tablespoonfuls are added to a quart of water, which is kept boiling in the room for at least a half to one hour. During the interim the room is ventilated. The diet is kept low, and fever and other symptoms are combated on general principles. Stimulation in these cases is rarely needed, but if it is, reliance is placed on strychnin, quinin and alcohol.

75. **Treatment of Tonsillitis.**—Medical treatment is commenced by Griffith by giving calomel grain ⅛ or grain ¼ (gram 0.008 or 0.016) tablets, one every thirty minutes until 2 grains (gram 0.130) are taken, or until the patient's bowels are well moved; so keep regulated thereafter. When first seen a hot mustard foot bath is given (heaping tablespoonful of powdered mustard stirred up in a pail of hot water), having the patient wrapped in a blanket in which he is afterward put to bed. The diet should be light and meat is better wholly refrained from. In cases accompanied by prostration, home-made meat juice may be employed. The course of treatment is planned to extend over a period of one, two or three days to suit requirements of acute attacks of tonsillitis. The specific treatment consists of quinin bisulphate (used because most soluble) grains 2 (gram 0.130) with Dover powder grains 5 to 10 (gram 0.333 to 0.666) when the patient is first seen, then administered night and morning thereafter during the course. Separate and distinct is the following treatment, which is directed to be regulated according to the amount of purulent exudate dripping from the infected tonsils, for it is these throat droppings, absorbed down in the stomach and intestines, which cause the exacerbations of systemic reaction in tonsillitis. To combat this Griffith gives drops 1 or 2 (c.c. 0.05 or 0.1) of pure phenol, stirred into a quarter of a glassful of cold water, to be administered from two to eight times a day of twenty-four hours as required.

Local cleansing of the throat may be employed by the patient with a mild gargle and oily spray, which latter does good by aiding suspension of the falling exudate. Hydrogen peroxid Griffith finds too harsh for use. The throat and tonsils may be gently wiped over once every one to three days by a solution of tannic acid, one part, in glycerin, four parts, or one of tincture of chlorid of iron, one part, in glycerin, five parts. Throat lozenges containing guaiacum grain 1 or 2 (gram 0.066 to 0.130), or made up with camphor, grain 1/10 (gram 0.006), menthol grain 1/10, and cocain hydrochlorid, grain 1/32 (gram 0.002), may be administered at the rate of six or eight a day. Lumps of cracked ice may be sucked to relieve thirst and lessen local inflammation. An ointment or hot poultice application to the neck under the angles of the jaw when lymphatic glandular involvement is manifested by swelling and pain, may be used. Marked mechanical obstruction to breathing is to be met by a linear slash with a guarded bistory through the bulging tonsil; one organ offending more than the other by its prominence is the rule. One or more cuts are to be made as necessary, reliance in this method depending on shrinkage obtained by blood depletion and sacrifice of the least amount of tonsillar tissue. Griffith does not object to a proper shortening of an elongated uvula, provided it is causing a symptomatic cough.

Tonic treatment, as of the hypophosphites, is employed subsequently if necessary. Excessive diarrhea, or the pressure of smoky urine, calls for reduction or cessation of the phenol medication.

Medical Record, New York

September 7, LXXXII, No. 10, pp. 415-460

78 False Gigantism, Complicated by Traumatic Ostoses. W. W. Griffin, New York.
79 Research Work in Life Insurance Medicine. F. L. Hoffman, Newark, N. J.
80 Case of Accessory Pancreas in Gastro-Intestinal Tract. C. L. Gibson, New York.
81 Treatment of Hyperacidity; the French Viewpoint. M. E. Rehfuss, Paris, France.
82 Enlargement of Mediastinal Glands. G. F. Boehme, New York.
83 Plea for More Careful Examination in Dermatology. B. F. Ochs, New York.

Boston Medical and Surgical Journal

September 5, CLXVII, No. 10, pp. 311-346

84 *Use of Lactic Acid Soured Milk and Lactic Acid Bacilli in Pulmonary Tuberculosis. P. C. Bartlett and C. V. Murphy, Rutland, Mass.
85 Two Cases of Diverticulum of Bladder Treated by Operation. A. L. Chute, Boston.
86 Present Status of Salvarsan. A. Post, Boston.
87 Two Cases of Orchitis Due to Mumps Treated by Operation. G. G. Smith, Boston.

84. **Lactic Acid Soured Milk and Lactic Acid Bacilli in Pulmonary Tuberculosis.**—The authors present certain types of cases in which lactic acid soured milk has proved of undoubted value. They give the method of application and the means adopted for preparing it on a relatively large scale in hospital practice, together with a brief consideration of the particular ferment employed, and their experience with other lactic acid culture.

Northwest Medicine, Seattle

August, IV, No. 8, pp. 227-260

88 Increase of Malpractice Suits. E. A. Sommer, Portland, Ore.
89 Pathology and Treatment of Membranous Pericolitis. R. V. Dolbey, Vancouver, B. C.
90 Surgery of Colon. A. E. Rockey, Portland, Ore.
91 Impressions Gathered on Recent Trip to Some of Surgical Clinics of Europe and America. R. C. Coffey, Portland, Ore.

Lancet-Clinic, Cincinnati

August 31, CVIII, No. 9, pp. 221-248

92 Case of Pellagra. A. Ravogli, Cincinnati.
93 Treatment of Structural Scoliosis. A. H. Freiberg, Cincinnati.
94 Diphtheria Bacillus Carriers and Staphylococcus Pyogenes Aureus. A. J. Bell, Cincinnati.

Laryngoscope, St. Louis

August, XXII, No. 8, pp. 997-1075

95 Contribution to Pathology and Clinical Diagnosis of Status Lymphaticus. G. H. Cocks, New York.
96 Operation for Reduction of Redundant Alar Cartilages. J. Leshure, New York.
97 Vincent's Fusiform Bacillus: Experimental Researches. F. Lasagna, Parma, Italy.
98 Case of Scleroma. S. Iglauer, Cincinnati.
99 Case of Lingual Thyroid. G. Fetterolf, Philadelphia.
100 Acute Inflammation of Thyroid. O. J. Stein, Chicago.
101 Black Hairy Tongue (Lingua Villosa Nigra): Report of Two Cases. W. W. Carter, New York.
102 Neglect of Trachea. J. A. Thompson, Cincinnati.
103 Adductor Paralysis of Left Vocal Cord Due to Mediastinal Tumor, with Skiagraph. C. D. Van Wagenen, New York.
104 Diseases of Labyrinth with Special Reference to Fistula Symptom. F. R. Spencer, Boulder, Colo.
105 Hypophysis Cerebri. I. W. Voorhees, New York.
106 Use of Alcohol in Accessory Sinus Disease. S. H. Lutz, Brooklyn.
107 Adjustable Open Speculum. H. P. Mosher, Boston.
108 Automatic Tonsil Suturer Demonstrated at Docent's Verein, Austria. L. J. De Swarte, Milwaukee.
109 New Lock for Nasal Wire Snare. J. Szymanski, Chicago.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

August 24, II, No. 2695, pp. 405-464

1 *Further Experience of Specific Curative Action in Amebic Disease of Hypodermic Injections of Soluble Salts of Emetin. L. Rogers.
2 Granule-Shedding in Trypanosoma Gambiense. H. S. Ranken.
3 Results of Sanatorium Treatment. F. W. Burton-Fanning and W. J. Fanning.
4 Use of Antiformin in Sputum Examination. G. H. K. Macalister.
5 *Pikrin Method of Staining Tubercle Bacilli. H. Wilson.
6 Education of Specialist on Continent. H. Mygind, P. Watson-Williams and H. S. Birkett.
7 Acute Suppurative Otitis Media, Its Neglect and Proper Treatment. R. H. Woods, C. Rundle and G. Alexander.
8 Value of Decompressive Operations in Intracranial Complications of Otitic Origin: Special Reference to Treatment of Otitic Meningitis. W. Milligan.
9 Prevention of Deafness in Non-Suppurative Cases. J. K. Love.
10 Indications for Schwartze Operation. G. J. Jenkins.
11 Factors Affecting Marching Powers of Troops. N. D. Walker.
12 More General Use of Iodin in First-Aid Treatment of Accidental Wounds. A. G. Wildey.
13 Eyestrain in Royal Navy: With Reference to Gunnery and Other Ratings. W. A. Whitelegge.
14 Treatment of Syphilis by Salvarsan. N. Raw.

1. **Emetin in Amebic Disease.**—Taken as a whole, Rogers believes that the twelve cases of amebic abscesses of the liver and spleen treated by him by emetin injections are full of promise. Either the hydrochlorid or the hydrobromid of emetin are equally useful, the former being the more soluble, while the latter requires about 2 c.c. of sterile water or saline to dissolve it. At first Rogers chiefly used ½ grain doses, but now very seldom employs less than ½ grain at a time, and often gives as much as ⅔, the equivalent of 60 grains of ipecacuanha, and has twice injected 1 grain doses subcutaneously without any vomiting or depression, but such a quantity is only required in extremely acute amebic dysentery. The salts can be safely boiled for a very short time, but it is better to dissolve them in sterile saline, or to boil the solution first and then add the emetin salt.

The extraordinary rapidity with which very marked improvement follows the subcutaneous injections of ½ grain doses of emetin is of the greatest diagnostic importance, for cases of bacillary dysentery and other nonamebic causes of the presence of blood and mucus in the stools are not materially affected by the drug, although it has done no harm in them. Thus, in a case of chronic bacillary dysentery complicating kala-azar, emetin injections had no effect, and the disease steadily progressed to a fatal termination. In Rogers' experience, whenever active amebas of the *histolytica* type, including the variety described by Noc and shown by Grieg to be the common one in India, have been found in dysenteric stools, the disease has eventually proved amenable to full doses of ipecacuanha, if not too acute or far advanced. Still, facilities and time for the microscopic examination of the stools of the large number of dysentery cases which often have to be dealt with in the tropics, are seldom available, so a simple and harmless clinical method of differentiating amebic from other forms, such as is now put forward by the author, is clearly of the greatest practical importance and will lead to the early adoption of suitable treatment in those cases which prove not to be amebic in nature. (See also abstract in THE JOURNAL July 20, p. 227.)

5. **Pikrin Method of Staining Tubercle Bacilli.**—It is claimed for the pikrin method of staining tubercle bacilli that bacilli deprived of their waxy coating can be detected by this means, and also that degenerate, "splitter," or spore forms may be recognized when unstained by the Ziehl-Nielsen method. As these spore formations under suitable conditions may develop into active virulent tubercle bacilli, it is of the utmost importance to recognise them in sputum from the point of view of infectiveness of a patient. This the pikrin method enables one to do.

Spengler's method is simple, and is conducted as follows: Having made a suitable film: 1. Stain with carbol fuchsin, warm, but without too much heat. 2. Pour off the stain without washing. 3. Pour on picric acid alcohol (consisting of equal parts of saturated solution of picric acid and absolute alcohol). After three seconds: 4. Wash with 60 per cent. alcohol. 5. Treat with 15 per cent. nitric acid till yellow (thirty seconds). 6. Wash again with 60 per cent. alcohol. 7. Counterstain with picric acid alcohol till lemon-colored. 8. Wash with distilled water and dry gently at a low heat.

The bacilli appear bright red on a lemon-colored ground, and, if present, are more perceptible than by any other method. In Wilson's opinion, it is the best stain for urinary residues in which the tubercle bacillus is suspected.

Lancet, London

August 24, II, No. 4643, pp. 497-568

15 History of Syphilis, Wassermann Reaction and Parasyphilis and Treatment. H. Morris.
16 *Vaccination for Typhoid by Living Sensibilized Typhoid Bacilli. W. Broughton-Alcock.
17 *Method of Vaccine Therapy of Surgical Tuberculosis. J. Fraser and J. P. McGowan.
18 Nerve-Ending Anesthesia. C. Clarke.
19 *Nature of Colon Bacilluria. E. M. N. Williams.
20 Septicemia Following Septic Laryngitis. A. Abrahams.
21 Roentgen-Ray Treatment of Hypertrichosis. A. F. Savill.

16. **Vaccination for Typhoid.**—The following conclusions are drawn by Broughton-Alcock: 1. The successful experiments on man by the method of Besredka have taken us one step forward in the application of vaccination. Cannot the sensibilized living *B. typhosus* be considered in the same light as the virus of small-pox, attenuated or modified by the immunized calf-lymph, and which gives rise to a specific immunity that may be veritably called ideal? 2. The sensibilized living bacilli remain alive over four months without exceptional precautions and their preparation is simple, rapid and practical. 3. The first dose for a woman of average size should be 500,000,000 sensibilized living bacilli in 1 c.c. of 0.8 per cent. saline. For a man of good physique the first dose should be 750,000,000 in 1 c.c. of 0.8 per cent. saline. The second dose, seven to nine days later, should be double these quantities. The dose of 500,000,000 represents 1 c.c. of a culture of twenty-four hours on gelose without peptone in 100 c.c. of saline. Diluted 1 to 40 and at the dose of 0.1 c.c. it fixes 0.1 c.c. of titrated guinea-pig's complement. 4. There is no general reaction and only an insignificant local reaction following these injections. The patient is in no way obliged to change his daily routine of living. These results are in marked contrast with Broughton-Alcock's experience of the reactions following the injections of the same number of killed bacilli in the vaccine of Wright-Leishman. 5. An elevated temperature, a previous history of typhoid, and the time of menstruation are not contra-indications to the giving of the living sensibilized bacilli typhosi. 6. The sera of persons injected with sensibilized bacilli typhosi have not been found to deviate complement and only rarely to agglutinate an emulsion of a young culture. Their addition, however, markedly increases phagocytosis. Probably they also contain anti-endotoxin bodies. 7. The detected presence of specific amboceptors, agglutinins, bacteriolysins, cannot be said to show the degree of immunity attained. The results of experiments *in vitro* cannot be interpreted as denoting the state of the patient's resistance. 8. As it has been asserted by all authors that vaccination by living microorganisms is the most effective, and, moreover, this has been proved by the experiments on chimpanzees made by Metchnikoff and Besredka, and as Broughton-Alcock's observations on man have proved the innocuousness of the living sensibilized *B. typhosus*, he presumes to conclude that this method ought by preference to be applied to man. Since the writing of this article 750 persons, including many soldiers, have been inoculated. The results are most satisfactory and encouraging.

17. **Vaccinal Treatment of Surgical Tuberculosis.**—Acting on the supposition that while artificially prepared tuberculins may contain many of the toxic substances responsible for the pathologic changes present in a tuberculous focus, the whole of these toxic substances would be most likely obtained in tuberculous foci as they occur in the naturally infected human body, the authors have used such material for the preparation of a vaccine. In short, instead of using artificial medias for the growth of the tubercle bacillus in the preparation of vaccinal material, the products occurring where

human tissues have acted as the culture medium have been employed. Further, they have made, as far as possible, the vaccinal treatment autogenous, using the patient's own tuberculous material, obtained at an operation or otherwise, as the source of the vaccine. In some cases this was impossible as no operation had been performed, and in such instances material from other patients was used; but bone cases were always treated with material from bone tubercle and gland cases with material from gland tubercle.

A portion of tuberculous tissue, preferably caseous, was taken at the operation and ground up in an agate mortar with washed silver sand, saline was then added, and the emulsion allowed to stand for an hour to allow the grosser particles of the sand and tissue to settle. The supernatant fluid was then centrifuged to get rid of the finer particles. This supernatant fluid was pipetted off and sterilized by heating to 60 C. for an hour. The fluid so obtained was tested for sterility, and finally put up in measured quantities in sterile capsules which were sealed. They began their experiments with a very small quantity of the vaccinal fluid, 5 c.mm., and if the patients did not react too severely the next dose, which was given a week after, was increased to 10 c.mm., and so on with increments every week of 5 c.mm. until at the end of ten weeks a dose of 50 c.mm. was given.

After the injections there were rise of temperature and malaise in most of the cases. In some such symptoms were slight or absent. The focal symptoms, however, present in all, were acute and always well marked. There was considerable congestion, in some cases to the extent of extravasation of blood. Caseation appeared to be hastened in certain of the cases. In none of the cases was there any lesion, abscess or otherwise, produced at the site of inoculation. Such inoculation was done by painting the skin, usually of the upper arm, with tincture of iodin and inoculating the vaccine subcutaneously.

No attempt was made to choose special cases in the above series. The first ten which presented themselves were put on the treatment. The majority were cases also which had not improved under the usual means of treatment. The most encouraging results were seen in gland tubercle, the reason probably being that, from their greater accessibility to clinical examination, improvement was more readily detected. Even more striking than the local improvement was the general change, and this was all the more important when one recollects that the hygienic surroundings of the patient were in no way improved while the treatment was going on. Another noticeable feature was the rapidity with which improvement made its appearance; in one case only did the treatment exceed ten weeks. An improvement began to be noticeable usually after the third inoculation.

19. **Nature of Colon Bacilluria.**—This investigation was undertaken with the hope of throwing light on the etiology of colon bacilluria and cystitis and on the relations of these two conditions. The urines of seventy cases, taken at random from patients seen in the course of a general practice, were examined for the presence of colon bacillus. The disorders found correlated with the bacilluria were carefully noted in each case and tabulated. Of the seventy patients examined, forty-four (Series A) suffered from some chronic disorder of the intestine, usually of long standing. In the remaining twenty-six cases (Series B) there was no history of any chronic irregularity of the bowels; most of them complained of frequency of micturition or pain on passing urine, which in several dated from the passing of a catheter. Sixteen cases of colon bacilluria were found among the seventy patients examined; all occurred in Series A; two only had definite symptoms of cystitis, though all sixteen had some frequency of micturition. In other words, bacilluria occurred in a little more than 22 per cent. of the whole number of patients examined, while it occurred in more than 36 per cent, of Series A, and in none of Series B.

Journal of Tropical Medicine and Hygiene, London

August 15, XV, No. 16, pp. 241-248

22 Tropical Pellagra. L. Nicholls.
23 Meteorology of Malaria. M. D. O'Connell.

Journal of Obstetrics and Gynecology of British Empire, London

July, XXII, No. 1, pp. 1-64

24 *Pelvic Inflammation in Woman. N. F. Lock.
25 *Experimental Work on Physiologic Function of Ovary. A. L. McIlroy.
26 *Axial Rotation (Cervical Torsion) of Myomatous Uterus. J. A. Kynoch.
27 Case of General Edema of Fetus With Fetal Ascites and Hydramnios. T. Davies.

24. **Pelvic Inflammation in Woman.**—Lock's paper is based on 118 cases in St. Thomas' Hospital during the year 1911. The total number of patients operated on for inflammatory conditions of the uterus and its appendages and the neighboring peritoneum and cellular tissue was 100. Eighteen patients were discharged without operative treatment. In thirty of these cases the pus found at the operation was examined bacteriologically. While collecting these cases Lock noticed that a very definite relation obtained between the organism present and the class of case in which it occurred, and that the type of lesion caused by any one organism was remarkably constant. In a large proportion of the more chronic cases of pelvic inflammation no organism can be found by bacteriologic methods, as there is a tendency for the organism which caused the condition after a certain time to die out.

The commonest course for the infection to pursue is an ascending one; the organisms gaining access to the genital tract during sexual intercourse and parturition, and, less commonly, during examination and operation. A descending infection is comparatively rare; it is the common route taken by tuberculous infection, while occasionally the tubes are infected by the passage of organisms from the appendix, or some other portion of the gut. This sometimes occurs as a reinfection of an old pyosalpinx or salpingitis in which the original causal organism had died out. The pelvic peritoneum and fallopian tubes are involved when general peritonitis occurs from whatever cause; but the local effects are lost in the general invasion of the peritoneum.

Apart from tuberculosis, the common causes of pelvic inflammation are the gonococcus, and the group of pyogenic cocci and bacilli. The gonococcus in some cases ascends soon after infection as far as the fallopian tubes, and there gives rise to salpingitis, in the majority of cases double, with consequent sterility. In others, however, after an acute attack of vaginitis or cervicitis, it may apparently become latent, and the patient may become pregnant. The pregnancy may proceed to full term or may terminate in abortion. Then after an interval the gonococcus seems to ascend and reach the fallopian tubes and give rise to salpingitis. This does not seem to occur till some weeks at any rate have elapsed since the confinement, and it is always questionable whether the patient may not have become infected subsequently to the pregnancy.

The group of septic organisms again falls into two divisions: in one the streptococcus is found, either alone or occasionally in association with other organisms; while in the second a large number of organisms seem to occur indifferently, either singly or two or more together. The former condition occurs in puerperal cases with a history of the onset of symptoms within a few weeks of confinement.

25. **Physiology of Ovary.**—McIlroy concludes that ovarian grafts prevent atrophy for a time but ultimate degeneration takes place in the transplanted tissue followed by atrophy of uterus. The rate of degeneration varies with the site of implantation, the more vascular the site the longer the persistence of graft. Degeneration takes place first in the cells of the corpus luteum as evidenced by hyaline changes and leukocyte infiltration. The follicles show cystic degeneration. The interstitial cells persist much longer than the follicles and they appear to control the nutrition of the uterus as atrophy takes place when these cells are degenerated and no atrophy when they are present without any trace of follicles.

In the course of a series of experiments now in process on the effects of castration on calcium and phosphorus metabolism, the ovaries were removed from a female dog during

proestrum. The uterine discharge ceased immediately after operation and was not again observed. Examination of the ovaries showed that corpora lutea were present and follicles in all stages of development. The interstitial cells were much enlarged, and in the neighborhood of the corpora lutea they were found to contain the lipoid substance so characteristic of lutein cells. It is, therefore possible that the interstitial cells have an important function in the maintenance of the nutrition of the uterus, and in the production of an internal secretion, and that they undergo various changes during proestrum and estrus.

26. **Torsion of Myomatous Uterus.**—From a study of the reported cases it would appear to Kynoch that pain associated with a uterine fibroid is more frequently due to slight torsion than is generally supposed, and that cases of acute axial rotation of the uterus must be regarded as one of the gravest risks to which women with uterine fibroids are liable, and therefore demands prompt operative interference.

Annales de Gynécologie et d'Obstétrique, Paris

July, XXXIX, No. 7, pp. 385-448

28 Spontaneous and Criminal Abortions. A. Herrgott.
29 Prophylactic Method of Treating Eclampsia. (Traitement de l'éclampsie par la méthode prophylactique dans les cliniques obstétricales de Berlin.) B. Stroganoff.
30 Serodiagnosis of Pregnancy. (Séro-diagnostic de la grossesse.) A. Quintelia.
31 Treatment of Tuberculosis of the Female Genital Organs. M. Patel. Commenced in No. 6.

Archives Mensuelles d'Obstétrique et de Gynécologie, Paris

June, I, No. 6, pp. 497-619

32 *Experimental Research on Transmission of Antibodies to the Offspring. (Etude d'ensemble sur la transmission des anticorps des ascendants à leur progéniture.) M. af Heurlin.

July, No. 7, pp. 1-48

33 *Torsion of Normal Ovary or Tube. (De la torsion spontanée de la trompe et de l'ovaire normaux.) M. Auvray.

32. **Transmission of Antibodies to the Offspring.**—Nearly a hundred pages of this article are devoted to the report of extensive experimental research in this line and comparison with 222 articles on the same subject in international literature. The clinical and experimental record is thus brought down to date in regard to most of the infectious diseases of man and animals.

33. **Spontaneous Torsion of Normal Ovary or Oviduct.**—Auvray reports a case in which a normal fallopian tube became twisted without apparent cause. The patient was a girl over 14, menstruating regularly for a year, and the sudden disturbances in the right side were ascribed to appendicitis. An ice bag arrested the pain and vomiting, and menstruation recurred at the regular period. As the right flank was still tender, she entered the hospital the fourth day, but as appendicitis seemed beyond question, palpation through the rectum was neglected. The third week the appendix was removed. It proved to be normal and further search revealed torsion of the right tube. This proved also to be histologically normal but it was removed. The only morbid feature in the patient's previous history was a hemorrhagic vaginal discharge noticed for twenty-four hours after birth. Auvray summarizes from the records nineteen cases of torsion of sound adnexa outside of the abdominal cavity and six inside, all in the non-pregnant, and three occurring during a pregnancy. In the first group the torsion occurred in connection with a hernia in all but one case, and all were in children from 1 month to 5 years old. Among all the other cases only three of the patients were free from some previous pathologic condition in the pelvic organs.

Lyon Médical, Lyons

June 16, XLIV, No. 24, pp. 1369-1368

34 Technic for Estimation of Blood-Pressure. (Sur quelques points de technique sphygmomanométrique.) C. Finck.

June 23, No. 25, pp. 1369-1432

35 Combined Treatment of Motor Disturbances. (Des associations du massage, de la mécanothérapie et de la rééducation motrice dans le tabes, la paraplégie spasmodique et l'hémiplégie, pendant la cure thermale de Lamalou.) Michaud.

June 30, No. 26, pp. 1433-1496

36 *Nerve Grafting. (Les greffes nerveuses.) J. P. Morat. Commenced in No. 25.

July 14, No. 28, pp. 61-120

37 Total Arythmia and Fibrillation of the Auricles. (Arythmie complète et fibrillation auriculaire.) L. Gallavardin and A. Dumas.

July 21, No. 29, pp. 121-156

38 *Cyanid of Mercury in Ophthalmology. (Utilité et mode d'emploi du cyanure de mercure pour prévenir ou guérir les infections exogènes de l'œil.) Grandclément.

July 28, No. 30, pp. 157-188

39 Pathologic Anatomy of Certain Severe Nervous Disturbances Without Apparent Lesions. (Les données de l'anatomie pathologique dans certaines affections nerveuses graves sans lésions apparentes.) L. Bériel. To be continued.

August 4, No. 31, pp. 189-228

40 Prehistoric Syphilis. (Syphilis osseuse préhistorique.) M. Gangolphe.

36. **Nerve Grafting.**—Morat describes an experiment on a dog which tends to show that nerve function cannot be restored by replacing the injured portion of a nerve by a segment from another. He chloroformed the dog, ligated the left sciatic so firmly as to be equivalent to sectioning it; removed a section 5 cm. long from the right sciatic and "spliced" it over the ligature with silk threads. After four days the animal seemed to be in normal condition. Ten days later the dog was anesthetized again and with all possible precautions to assure the accuracy of the experiment the proximal end of the ligated nerve was stimulated with an induced electric current. No contraction took place in the muscles supplied by the nerve. On histologic examination the proximal end of the nerve was found normal, the distal end degenerated and the graft degenerated somewhat but not so much as the distal end of the nerve.

38. **Use of Cyanid of Mercury in Ophthalmology.**—Grandclément uses a solution of cyanid of mercury, 1 to 2,000, for disinfecting in all operations on the eye. He bathes the eye with it several times a day for three days before the operation, and has never had a case of suppuration since adopting this method. Moreover he claims that this solution is a very effective remedy for chronic iritis and iridochoroiditis, and particularly for atrophic chorioretinitis.

Revue Mens. de Gyn., d'Obstétrique et de Pédiatrie, Paris

July, VII, No. 7, pp. 401-464

41 Uterine Fibroma and Pregnancy; Three Cases. (Fibrome utérin et grossesse.) F. Fraipont.
42 *Asphyxia Neonatorum. (Quelques traitements nouveaux de la mort apparente du nouveau-né.) P. Delmas.
43 Acute Dilatation of the Stomach After Childbirth. J. Audebert.

42. **Asphyxia Neonatorum.**—Delmas discusses some of the later methods of combating the subaeration and excess of carbon dioxid in the blood of a new-born child. Permitting blood to escape from the umbilical cord releases some of the dioxid, and transfusion of artificial serum into the umbilical vein, in "white asphyxia," has also proved useful. Delmas' own method of passive oxygenation of the lungs by intratracheal insufflation of oxygen was mentioned in THE JOURNAL, July 6, p. 73. He makes a point of keeping the infant after reanimation in an incubator for a day under close supervision. Aside from cases of subaeration from debility, prematurity or severe obstetric injury, lumbar puncture is liable to clear up the diagnosis and prognosis. If the cerebrospinal fluid is clear, showing that there is no vascular injury of the nerve centers, the outlook is favorable. If the fluid is hemorrhagic, repeated puncture may restore the child.

Beiträge zur Klinik der Tuberkulose, Würzburg

XXIII, No. 4, pp. 455-559. Last indexed Aug. 31, p. 754

44 Pathology of Tuberculous Peritonitis. H. Voss.
45 *Experimental Tuberculin Treatment. H. Haupt.
46 *Etiology of Tuberculosis and Phthisis. (Heilstättenerfahrungen über Tuberkuloseinfektion und Schwindsuchtsentstehung mit bes. Berücksichtigung der Römerschen Anschauungen.) W. Freymuth.
47 Albumose-Free Tuberculin. (Therapeutische Erfahrungen über das Kochsche albumosefreie Tuberkulin.) O. Orszag and I. Spitzstein.
48 Lung Findings After Injection of Iodipin Simulate Advanced Tuberculous Process. (Schwere Lungentuberkulose röntgenologisch vorgetäuscht durch Niederschläge nach subkutanen Jodipininjektionen in Rücken.) A. Schmitt.
49 *Albumosuria in the Tuberculous. H. Deist.

XXIV, No. 1, pp. 1-144

50 Artificial Pneumothorax in Treatment of Advanced Pulmonary Tuberculosis; Five Cases. (Beitrag zur Pneumothorax-Behandlung schwerer Lungentuberkulose.) Bochalli.
51 Experimental Research on Absorption and Effusion with Artificial Pneumothorax. W. Meyerstein.
52 *Exacerbations in Tuberculosis. (Ueber tuberkulöse Exazerbation.) K. Dietl and F. Hamburger.
53 *"Scrofula" in Adults. (Skrofulose Erwachsener.) A. Bauer.

54 Pulmonary Tuberculosis with Much's Granula Alone; Fourteen Cases. (Ueber Lungentuberkulose-Formen mit ausschliesslichem Vorkommen Much'scher Granula.) W. Neumann and R. C. Matson.
55 Tuberculosis in a Rural Community. (Die Sterblichkeit der Bevölkerung der Bauerschaften Schlangen und Kohlstadt an Tuberkulose von 1801-1908 inkl.) Werner.
56 *Acute Hemorrhagic Nephritis with Pulmonary Tuberculosis. F. Tobiesen.

45. **Experimental Tuberculin Treatment.**—Haupt reviews the conflicting results of various workers in this line, and then reports extensive research of his own in which he inoculated guinea-pigs and rabbits with small doses of tubercle bacilli and then applied tuberculin treatment, approximating as closely as possible clinical conditions. The findings were practically negative.

46. **Origin of Tuberculosis.**—Freymuth writes from the Belzig sanatorium that in his experience scarcely any child escapes infection with tuberculosis among the classes of the population most exposed. Consequently pulmonary tuberculosis in adults usually develops in an organism already infected. The primary infection varies in importance according to the age at which it occurs. Almost absolutely fatal in young infants, it becomes milder after the first two years; between the ages of 6 and 15 most of the tuberculous infections display a pronounced benign character. The only exception to this is pulmonary tuberculosis which seems to be as serious in children as in adults. His experience further shows that pulmonary tuberculosis in adults cannot be regarded as the simple continuation of a tuberculous process in the lungs in childhood; it is a new affection, either from new external infection or the further development of some old latent pulmonary process, persisting since childhood, or there may be an endogenous infection of the lungs. Of decisive moment for the manifestation of the disease are unhygienic conditions, the personal predisposition and a tuberculous environment. On the other hand, the factors which influence the course of the disease are the presence of immunity left from the primary infection and the severity of the second infection. Prophylaxis of tuberculosis must begin with the children, and the most important measure is to protect infants during the first two years. Prophylaxis of pulmonary phthisis is best realized by radical treatment of the benign forms of tuberculosis in children of the school age. There is not much hope of influencing pulmonary tuberculosis in children, but fortunately this is rare; such children should be segregated. All the measures hitherto in vogue to protect adults against tuberculosis must be scrupulously enforced as, so far, there is nothing to show that once healed tuberculosis renders the individual immune to a second infection from without.

49. **Albumosuria in Tuberculosis.**—Deist found albumosuria in the urine only in the third stage of tuberculosis. The albumose is probably derived from the bodies of the tubercle bacilli. Tuberculin contains such small amounts that in the usual dosage it cannot be responsible for persisting albumosuria. His research shows, however, that albumosuria after an injection of a solution of albumose is transient, while after injection of large amounts of tuberculin it can be detected for three days. This fact might be utilized in diagnosis and prognosis. If the reaction for albumosuria persists longer than this, some fresh inflammatory focus in the lungs may be assumed, that is, that the tuberculosis is active. The constant afebrile albumosuria after tuberculin injections is evidently due to the reaction, and the degree of the albumosuria and its duration may thus serve as a guide in the dosage of the tuberculin.

52. **Exacerbations in Tuberculosis.**—The experimental research described shows that the immunity of tuberculous guinea-pigs to reinfection serves to protect only against small reinfecting doses. Hamburger has recently shown that, weeks and months after the reinfecting dose, changes suddenly develop at the point of inoculation which must be regarded as exacerbation of the tuberculosis. The experiments here related were made with guinea-pigs; they were inoculated with a small dose of tubercle bacilli and then later were reinoculated at the same time as untreated controls. The results sustain anew the importance of the predisposition. This method affords a means of experimental research on the predisposition, such as has not been attainable before. The findings are tabulated for comparison.

53. **"Scrofulous" Adults.**—Bauer protests against the neglect of the manifestations of "scrofula" in adults. Signs and symptoms suggesting scrofula in the past or its persistence can often be found on careful search and throw much light on the diagnosis in dubious cases of tuberculosis in adults. The connection of tuberculosis with scrofula is as manifest in adults as in children. The manifestations in the eye are less frequent and less severe in adults than in children, but the former suffer more from chronic catarrh of the upper air passages, which, however, does not induce such hyperplasia as in children. He has sometimes witnessed scrofula develop in the course of pulmonary tuberculosis in adults. Certain peculiarities of the "scrofula" in adults suggest that it is a manifestation of the immunity process or the loss of a previously acquired immunity; its spontaneous retrogression signifies the reacquirement of immunity; its obstinate persistence or aggravation may be a sign of the impossibility of active self-immunization against tuberculosis. In conclusion Bauer regrets that the specialists in the fields of these scrofulous symptoms pay so little attention to their connection with tuberculosis.

56. **Acute Hemorrhagic Nephritis in Pulmonary Tuberculosis.**—Tobiesen reports twenty-one cases of this kind; in twelve the nephritis developed in the hospital or in the sanatorium. Only two of the patients were in the first stages of tuberculosis, the others were in the third stage; all but two were males. The course was insidious and no new symptoms developed. When the pulmonary process was not too severe, the aspect of the urine rapidly improved and in four of the cases the cure seems to be complete and permanent.

Centralblatt für die Grenzgebiete der Med. u. Chir., Jena

July 26, XV, No. 5, pp. 347-514. Last indexed July 6, p. 73

57 *Acquired Fistula in Gastro-Intestinal Canal. (Die erworbenen Fisteln des Magen-Darmkanals.) H. Hilgenreiner.
58 *Angiosclerotic Gangrene of the Legs and Operative Treatment. (Die angiosklerotische Gangrän der unteren Extremitäten und die neueren chirurgischen Bestrebungen zu ihrer Behandlung.) D. G. Zesas.
59 Isolated Sigmoiditis and Perisigmoiditis. R. Köhler.

57. **Acquired Fistula in Gastro-Intestinal Tract.**—Hilgenreiner reviews 271 articles published on this subject since his previous compilation in 1905. The records show 160 cases of acquired fistula in the stomach. Those located near the pylorus allow stomach contents to escape so that a prompt operation is indispensable, but when the opening is near the cardia it is liable to heal up spontaneously so that operative treatment need not be discussed for the first six or eight weeks. On suspicion of syphilis, specific treatment may do wonders. An alkaline powder scattered on the edges of the fistula prevented corrosion from the gastric juice in Mann's case. The records show 119 cases of a fistula between the stomach and large intestine and two into the duodenum. The technic for managing the fistulas at different points and the complications is reviewed in detail.

58. **Operative Treatment of Gangrene of the Legs.**—Zesas lists 284 articles on gangrene from hardening of the blood-vessels, and reviews the various operations that have been attempted to remedy it, especially arteriovenous anastomosis, which has been done in sixty-three cases. In eight of the cases marked improvement or a cure was realized, and this justifies further attempts in this line. The favorable cases were reported by Wieting, Heymann, Glasstein and Bernheim. In twenty-eight of the cases there was thrombosis, and in twenty-six cases amputation became necessary. The anastomosis had a favorable influence on the pain in nearly every case, even although this relief was not always permanent.

Deutsche medizinische Wochenschrift, Berlin

July 25, XXXVIII, No. 30, pp. 1401-1440

60 *Operations on Diabetics. (Indikation und Prophylaxe chirurgischer Eingriffe bei Diabetikern.) F. Umber.
61 Anaphylaxis from Excessive Functioning of the Thyroid? (Thyreosis und Anaphylaxie.) G. Wolfsohn.
62 Colon Bacillus and Suppuration. (Experimentelle Untersuchungen über das Bacterium coli als Eitererreger.) O. Hess.
63 Hemorrhagic Nephritis in Purpura; Six Cases. A. Lippmann.

64 Symptomatic Importance of Changes in the Hearing with Central Neurofibromatosis. (Hörbefund bei zentraler Neurofibromatose.) Engelhardt.
65 *Source of Error in Phenolphthalin Test for Occult Blood. (Eine Fehlerquelle bei Anwendung der Phenolphtalin-Blutprobe.) B. Vas.
66 Methylene Blue-Iodin Test for Acetic Acid in Urine. (Neues Verfahren zum Nachweis der Azetessigsäure in Urin.) B. v. Ondrejovich.
67 Alimentary Galactosuria in Liver Disease in Neuroses. M. Hirose.
68 Distention of Sigmoid Flexure. (Megasigmoideum als Ursache einer 4-monatlichen Verstopfung.) R. Luria.
69 Serodiagnosis of Echinococcus Disease. (Komplementablenkung in Echinococcusfällen.) R. Hertz.

August 1, No. 31, pp. 1441-1480

70 *Electrophysical Means to Enhance Action of Drugs and Toxins. (Ueber Arzneimittel und Gifte.) J. Traube.
71 Mutation Phenomena in Bacteria. Baerthlein.
72 Diagnosis of Abdominal Growths from Displacement of Large Intestine. (Die Röntgendiagnose intraabdominaler Neubildungen aus der Verlagerung des Dickdarms.) E. Stierlin.
73 Instantaneous Roentgenography of the Thorax. (Ueber Röntgenschnellaufnahmen des Thorax.) A. Wolff-Eisner.
74 Mesothorium Radiotherapy in Gynecology. (Ueber Versuche direkter Tiefenbestrahlung in der Gynäkologie mittels radioaktiver Substanzen—Mesothorium.) W. Friedländer.
75 Endobronchial Epinephrin Spray in Asthma and Bronchitis. (Wirkung des Adrenalins beim Asthma bronchiale und bei der chronischen Bronchitis.) A. Ephraim.
76 Epidemic of Jaundice. ((Eine Ikterusepidemie.) S. Weissenberg.
77 Treatment of Ruptured Extra-Uterine Pregnancy. (Zur Behandlung der geplatzten Extrauteringravidität mit freier Blutung.) A. Wagner.

60. **Operations on Diabetics.**—Umber declares that internists as a rule shrink from having an operation done on a diabetic and are liable to postpone it until too late. It is of the greatest importance to determine whether the diabetes in an operative case is essentially severe or whether the phase observed is a transient aggravation by the surgical process of a mild diabetes. But everything should be done to reduce the glycosuria as much as possible beforehand and afterward, and to ward off coma by prophylactic treatment of acidosis. He insists that the indications for operative treatment should not be materially restricted in the diabetic. The gangrene in diabetics is the result of hardening of the arteries and not directly of the diabetes. In mild cases removal of the gangrened part, with its noxious influence on the metabolism, permits the diabetes to resume its former mild character after the transient aggravation of the disease. Even severe diabetes with acidosis does not peremptorily contra-indicate a needed operation, as he proves by some examples. He has found the "oatmeal cure" a useful preliminary to an operation, following von Noorden's technic. If the oatmeal is not well borne, he gives milk or cream in its place, with 120 or 240 gm. of apple, raw or cooked. The food is given every two or three hours. If there is no acidosis or if it subsides under dieting, bouillon and fat can be allowed on certain days (bouillon, beef-marrow, butter, tea, coffee, brandy, red wine). This helps to reduce the glycosuria more rapidly. Sodium bicarbonate or magnesia must be given at the same time until the urine becomes neutral or weakly alkaline, no more. When the operation is urgent, he gives the alkali by mouth and gives small doses of opium. He warns against intravenous injection of the alkali before the operation as this favors thrombosis. The best time for operating on a diabetic seems to be before breakfast, and local anesthesia should be preferred when possible.

65. **Source of Error in Testing for Occult Blood.**—Vas warns that a previously taken purgative containing phenolphthalein may interfere with the findings in the stools.

70. **To Enhance Local Action of Drugs.**—Traube comments on the law that a toxic substance in the blood or colloidal vehicle becomes less toxic as its particles grow larger. An antitoxin may reduce the noxious action of a toxin merely by agglutinating or clumping the particles of the latter. The neutralizing action of the antitoxin may be of a physical nature as well as a chemical. The workings of this law permit the hope that by applying an alkali locally to the disease focus a drug, taken internally, may have its particles so broken apart or otherwise physically altered by the alkali that it will display an elective action at this point. Recent experiments on the eye with sodium carbonate showed that it enhanced the action of cocain and atropin, and rendered it more durable.

Medizinische Klinik, Berlin

July 21, VIII, No. 29, pp. 1181-1220

78 Complications of Acute Otitis Media. (Komplikationen der aguten Mittelohreiterung.) Stenger.
79 Importance of Further Research on Diagnostic Importance of Cerebrospinal Fluid. (Bedeutung der Untersuchung der Spinalflüssigkeit.) F. Eicheiberg.
80 *Prophylaxis of Pulmonary Tuberculosis. G. Löffler.
81 Physical Measures in Treatment of Gastro-Intestinal Disturbances. (Ueber die Wirksamkeit der physikalischen Behandlungsmethoden bei Störungen des Verdauungsapparats). S. Landsberg.
82 Treatment of Ankylosed Joints in Thermal Baths. (Mobilmachung von Gelenksteifigkeiten während Thermalkuren.) B. Bosanyi.
83 Case of Polyneuritis After Salvarsan in Syphilis. (Beitrag zum Kapitel; R. cochlearis n. VIII und Salvarsan.) O. Levinstein.
84 Nitroglycerin or Amyl Nitrite in Seasickness. O. Burwinkel.
85 Chemical Explanation of Action of Mercury. (Neuere Anschauungen über den Chemismus der Gift- und Heilwirkung organischer Quecksilberverbindungen.) W. Schoeller and W. Schrauth.

July 28, No. 30, pp. 1221-1258 and Supplement

86 Relics of Syphilis in the Tissues. (Ueber syphilisreste in den Geweben und ihre prognostische Bedeutung.) S. Ehrmann.
87 Indications for Operative Treatment of Internal Ear Disease. (Indikationen zur Eröffnung des entzündlich erkrankten Labyrinths.) F. Lange.
88 Hypoplastic Aorta. (Zur klinischen Diagnose der hypoplastischen Aorta bei Lymphatikern.) E. Stoerk.
89 Influence of Therapeutic Baths on Electrocardiogram. (Einfluss balneotherapeutischer Massnahmen auf das Herz und die Form des Elektrokardiogramms, sowie über die Bedeutung des Elektrokardiogramms für die Klinik der Herzkrankheiten.) A. Strubell.
90 Influence of Sea Climate on the Circulation. (Einfluss des Seeklimas auf den Blutkreislauf.) J. Ide.
91 *Iodin and Thyroid Extract as Factors in Exophthalmic Goiter. (Jod und Thyreoidin als Ursache der Basedowkrankheit bei Kropfbehandlung.) A. Pulawski.
92 Death Under Alypin Local Anesthesia After Morphin and Adalin. G. Ritter.
93 Dressings for the Eye. (Der Verband in der Augenheilkunde.) H. Felichenfeld.
94 Colloids and Mineral Springs. F. Krieg.
95 Principles of Dietetics. (Diätmodifikation—Diätform—Diätverordnung—Diätdurchführung.) C. Jürgensen.

80. **Prophylaxis of Pulmonary Tuberculosis.**—Löffler calls attention to the frequency of a mechanical and functional lack of proportion in the chest and lungs of certain children and young people, which gives cause for suspicion of tuberculosis. Time reveals that this is a mistake, but the conditions favor infection and every effort should be made to help the child to outgrow them. Breathing exercises are especially useful, and outdoor play.

91. **Iodin and Thyroid Extract as Factors in Exophthalmic Goiter.**—Pulawski reports three cases in which he witnessed Basedow symptoms develop in the course of iodin or thyroid treatment of a goiter. In one case the Basedow symptoms persisted long after the treatment had been suspended.

St. Petersburger medizinische Zeitschrift

July 28, XXXVII, No. 14, pp. 207-220

96 Evolution of the Treatment of Paralysis. (Entwicklung der Lähmungstherapie.) O. Vulpius.
97 Senile Arteriosclerosis. (Arteriosklerose des Greisenalters.) P. Hampeln.

August 14, No. 15, pp. 221-234

98 Industrial Diseases and Injuries. (Die Gefährdungen und Schädigungen des Mannesalters durch den Beruf.) E. Schwarz.
99 Influence of Status Lymphaticus on the Course of Diseases. (Bedeutung der lymphatischen Konstitution für den Verlauf der Krankheiten.) S. Unterberger.

Therapeutische Monatshefte, Berlin

August, XXVI, No. 8, pp. 549-632

100 *Necessity for Official Examination of Claims Made for New Drugs. (Prüfungs- und Auskunftsstellen für Arzneimittel.) E. Seel.
101 *Diet in Prophylaxis and Treatment of Tuberculosis in Children. (Zur Prophylaxe und Ernährungstherapie der Lungenerkrankungen im Kindersalter.) H. Vogt.
102 Epinephrin in Therapeutics. (Zur Pharmakodynamik und therapeutischen Verwendung der Adrenalinwirkung.) F. Gaisböck.
103 Reform in Advertising Medicinal Articles. (Zur Arzneimittelliste des Deutschen Kongresses für innere Medizin.) Arzneimittelkommission des Deutschen Kongresses für innere Medizin.

100. **Official Examination of Claims Made for Medicinal Articles.**—Seel devotes sixteen pages to his arguments on the necessity for, and the possible equipment and scope of a central institution to investigate the medicinal articles on the market. He lauds the Council on Pharmacy and Chemistry of the American Medical Association as an ideal arrangement for the purpose, and states that Japan has had a regulation in force since last April requiring all medical articles and

drugs not listed in any pharmacopeia to be submitted to the government before they are offered on the market. Samples of the article and information in regard to its composition must be submitted. Seel looks to the government in Germany to inaugurate something of the kind, and first of all to organize some central institution for the purpose.

101. **Diet in Prophylaxis of Pulmonary Tuberculosis.**—Vogt insists that young children should be protected against infections with as much care as a surgeon protects an operative wound. Adults with acute affections of the air passages should keep away from the vicinity of young children. If this is impossible, they should wear a face mask in the presence of the child. Adults with a tendency to recurring sore throat and bronchitis should be regarded as not suited for service as a nurse or governess. The better resistance of breast-fed infants to infections is possibly due, he thinks, to the larger fat content in the milk. This assumption is sustained by the results of experiments on animals; animals given fat in their food displayed a higher immunity to tuberculosis than the animals fed on carbohydrates. It is known also that animals with the largest proportion of water in their tissues yield to infection more readily than others. Fat-rich food favors development of a water-poor body, and hence enhances the resistance to tuberculosis. Another factor too often neglected in the prophylaxis of tuberculosis is breathing in such a way as to have the diaphragm do its full share of work and thus keep the circulation normal. This is even more important for the infant than the adult as the infant is restricted to diaphragm breathing. This requires normal tone in the abdominal walls to keep it normal. The diaphragm breathing suffers on a diet that causes the abdominal walls to grow flabby or to be unduly distended or with abdominal deposits of fat. On a too long and exclusive milk diet, the infant has flabby abdominal walls, and on too exclusive carbohydrate diet, the child grows too fat and its abdomen becomes distended even when no acute digestive disturbances develop. A tendency to dyspnea and cyanosis develops, and the child acquires an intercurrent infection much more readily than a child with strong muscles. Still another point to be regarded is that acute digestive disturbances interfere with the circulation in the lungs, and hemorrhagic infiltration is liable, thus providing a nest in which secondary bronchopneumonia may develop. This form of disturbance in the circulation in the lungs is most common in infants who lie mostly on their backs. With strong muscles the child sits and stands more, and this in turn aids in warding off tuberculosis. The diet is thus seen to be the key that opens or locks the door against tuberculosis.

Therapie der Gegenwart, Berlin

August, LIII, No. 8, pp. 337-384

104 Thorium in Therapeutics. (Der Jetzige Stand der Thorium-X-Therapie mit eignen Beobachtungen bei Leukämie und Anämie.) G. Klemperer and H. Hirschfeld.
105 *Differential Atmospheric Pressure in Treatment of Heart Disease. (Praktische Ergebnisse bei der Behandlung Herzkranker mit Druckänderung der Lungenluft nach meiner Methode.) E. Albrecht. Concluded in No. 9.
106 *Stuttering. (Zur Kenntnis des Stotterns für den praktischen Arzt.) T. Hoepfner.

105. **Differential Pressure in Treatment of Heart Disease.**—Albrecht applies different atmospheric pressure, varying from positive to negative and transitional phases at one sitting, in treatment of heart disease. He aims to alter thus mechanically the circulation of the blood through the lungs and thus exert an active influence on the abnormal distribution of the blood in the heart. Previous efforts in this line have been directed exclusively to altering the blood content in the lungs. By alternating and combining negative and positive pressure with expiration into ordinary air, a remarkable effect on the heart is produced, especially in cases of dilatation. He has now a record of 2,032 sittings of the kind; in only 195 was negative pressure alone used. He has never witnessed any by-effects or inconveniences in any of his ninety-two patients with various forms of heart or vascular disease. He cites a number of typical cases but does not describe the apparatus he uses.

106. **Stuttering.**—Hoepfner warns physicians to be on the lookout for the early symptoms of stuttering, possibly in children only 2 or 3 years old. He comments on the great handicap that stuttering is to any individual, rendering him unsocial and altering the character. The assumption that stuttering can be outgrown is very rarely sustained by facts, he says. He has never known idiots to develop stuttering; it is most common in the mentally unbalanced, degenerates and paranoiacs. Treatment therefore should be more than merely to correct the speech.

Wiener klinische Wochenschrift, Vienna

July 25, XXV, No. 30, pp. 1155-1182

107 Case of Hysteric Aphasia. (Zur Kenntnis der hysterischen kortikalen motorischen Aphasie mit Amnesie, Alexie und Agraphie.) A. Schönfeld.
108 Spherical Concretions in Dammed Appendix. (Kugelbildungen im Wurmfortsatze.) H. Poindecker.
109 Alimentary Galactosuria of Nervous Origin. (Ueber neurogene Galaktoseintoleranz.) H. Politzer.
110 The Cranial Nerves in Early Syphilis. (Zur Kenntnis der Hirnnervenstörungen im Frühstadium der Syphilis, Speziell nach Salvarsan.) A. Zaloziecki and R. Frühwald. Commenced in No. 29.
111 Serodiagnosis of Cancer. (Zur Einwirkung des Karzinomserums auf Karzinom und zur Oxyproteinsäurevermehrung bei Karzinom.) H. Salomon and E. Freund.

August 1, No. 31, pp. 1183-1214

112 *Prognostic Value of Urochromogen Reaction in Urine in Pulmonary Tuberculosis. (Verwertung des Urochromogennachweises bei der Indikationsstellung der Tuberkulinbehandlung.) M. and A. Weisz.
113 Spastic Hour-Glass Stomach as Sign of Duodenal Disease. (Spastischer Sanduhrmagen bei duodenalen Affektionen.) A. Baron and T. Barsony.
114 General Infection With the Neisser Gonorrhea Micrococcus. K. Rotky.
115 Treatment of Syphilis. L. Löw.

112. **Urochromogen in Urine as Guide in Treatment of Tuberculosis.**—Weisz regards a positive diazo reaction as an indication that the system is incapable of vigorous recuperation, and consequently that tuberculin treatment has no hopes of success as this requires the active cooperation of the body. The presence of urochromogen in the urine is part of the diazo reaction and even precedes the latter, so that determination of it by the simple permanganate test answers all purposes and reveals the cases in which the tuberculosis is beyond help from tuberculin and those in which the body is liable to respond favorably to its action, thus practically deciding between life and death. All that is necessary is to add 3 drops of a 1 to 1,000 solution of potassium permanganate to 1 c.c. of urine diluted with 2 c.c. of distilled water. The appearance of a yellow color reveals the presence of urochromogen, the fluid remaining clear. Weisz gives the ultimate history of twenty-three patients tested in this way, the outcome confirming the great prognostic value of this test. He accepts positive findings as contra-indicating tuberculin treatment, and advises occasional repetition of the test during a course of tuberculin treatment. [Compare with abstract 30 in THE JOURNAL, Feb 24, 1912,, p. 587.]

Zeitschrift für Kinderheilkunde, Berlin

July, VI, No. 4, pp. 265-364

116 *Chronic Albuminuria After Scarlet Fever. (Chronische Albuminurien nach überstandener Scharlachnephritis.) J. Rosenfeld and S. v. Reehtenstamm.
117 "Scrofula." (Was ist Skrofulose?) K. Hochsinger.
118 Natural and Acquired Defective Thyroid Functioning. (Ueber hypothyreotische Konstitution und über frühzeitig erworbene Athyreose.) E. Wieland.
119 Masturbation in Children. (Beobachtungen über kindliche Onanie.) J. K. Friedjung.
120 Acute Painful Swelling of the Breasts in Older Children. (Ueber die akute schmerzhafte Brustdrüsenschwellung grösserer Kinder—"Mastitis adolescentium.") J. Zappert.

116. **Chronic Albuminuria After Scarlet Fever.**—Ninety-three patients from the Vienna children's clinic who had had nephritis following scarlet fever were reexamined as to the condition of heart, blood-pressure and urine. Fifty-two of them had had albumin in the urine when dismissed from the hospital. The interval since dismissal varied from one to ten years. In no case was there a severe chronic nephritis; ten children showed albuminuria; in seven there were casts accompanied by sediment, and in one by increased blood-pressure. The postural test was applied (kneeling for ten minutes in a lordotic position) and twenty-eight of the children showed albuminuria after this test, while it had been absent before, and in eight cases there was a marked increase in the urine. The severity of the original kidney affection—so far as it

was shown by uremic symptoms—bore no relation to the later albumin findings; but those children who had left the hospital entirely free from kidney trouble, showed a much smaller percentage of albuminuria than those who had been dismissed with albumin still in the urine. Tables are given showing in detail the findings.

Zentralblatt für Chirurgie, Leipsic

July 20, XXXIX, No. 29, pp. 985-1016

121 Formalin Injections in Echinococcus Disease. F. Franke.
122 Improved Technic for Suture of Vessels. (Zur Technik der Gefässnaht.) E. Jeger and H. Lampl.

July 27, No. 30, pp. 1017-1048

123 Improved Technic for Draining Hepatic Duct. H. Kehr.
124 *Blocking the Sciatic Nerve. (Leitungsanästhesie des N. ischiadicus.) W. F. Jassenetzky-Woino.
125 *Treatment of Elephantiasis by Excision of Tissue. (Die operative Behandlung der elephantiastischen Oedeme.) E. Kondoleon.

August 3, No. 31, pp. 1049-1088

126 Technic for Irrigation in Peritonitis. (Zur Methodik der Spülung bei eitriger Bauchfellentzündung.) R. Gutzeit.
127 Maximal Relaxation of Rectal Walls as Early Symptom of Septic Appendicitis. (Die Maximaldehnung des Mastdarms als ein sehr frühes Symptom bei Appendicitis acuta septica.) C. Springer.
128 Advantages of Plaster Cast After Resection of the Knee. (Zur Nachbehandlung der Kniegelenksresektion.) K. Blauel.

124. Blocking the Sciatic Nerve.—Woino states that three years of experiments have demonstrated that the best point to reach the sciatic nerve is at the intersection of a horizontal line through the tip of the greater trochanter and a vertical line passing through the outer margin of the tuberosity of the ischium. In three of twenty cadavers tested the horizontal line had to be from 1 to 1.5 cm. higher, but in all the others the nerve was directly accessible at this point, just as it emerged from the great sacrosciatic foramen. In every cadaver a stain injected at this point bathed or permeated the nerve. The anesthetic acts more rapidly and intensely when from 5 to 10 drops of epinephrin are added to the 10 or 20 c.c. of the 2 per cent. anesthetic he uses to block the nerve. He inserts the needle in the corner of a square wire frame, two sides of which form the guiding lines. Operations on soft parts can then be commenced in half an hour, but on bones not before an hour. He has applied this technic in twelve cases with gratifying results. In most cases it is necessary to block at the same time the femoral nerve, according to Läwen's technic. These technics, as also Kulenkampff's method of blocking the brachial plexus, might be utilized, he suggests, for injecting tetanus antitoxin.

125. Operative Treatment of Elephantiasis.—In six cases at Athens Kondoleon has successfully removed strips of fascia in treatment of elephantiasis. The edema subsided afterward, partially or totally, and the leg became soft, but the interval of one or two months since is too brief to determine the ultimate outcome. The relief even to date, he declares, has been such as to justify the operation.

Zentralblatt für Gynäkologie, Leipsic

July 20, XXXVI, No. 29, pp. 945-976

129 Advantage in Tying the Umbilical Cord Only Once. (Ist eine doppelte Unterbindung der Nabelschnur bei Entbindungen notwendig oder vorteilhaft?) W. Möller.
130 The Midwife Question. (Zur Reform des Hebammenwesens.) F. Weisswange.

July 27, No. 30, pp. 977-1008

131 *Management of Third Stage of Labor. (Ueber das "Halten der Gebärmutter." Erfahrungen mit der Dubliner Methode in der Leitung der dritten Geburtszeit.) J. Reich.
132 Intrapartum Transmission of Germs in Vagina to the Child's Mouth, Umbilicus or Mamma and Secondary Infection of Mother's Breasts. (Der Uebergang mütterlicher Scheidenkeime auf das Neugeborene und indirekt auf die Mutter.) W. Lindemann and F. Noack.
133 Isolation of Syncytium Cells. (Die Isolierung von Syncytium ev. Placentarzellen.) Klutsi.
134 Criminal Abortion. (Der Kampf gegen die kriminelle Fruchtabtreibung.) M. Hirsch.

August 3, No. 31, pp. 1009-1040

135 *Death from Prophylactic Camphorated Oil Injection. (Tödliche Kampfervergiftung nach Anwendung von offizinellem Kampferöl zur postoperativen Peritonitisprophylaxe.) W. Rübsamen.
136 Ovarian Abscesses of Appendicitic Origin. R. Wanner.
137 Attempt at Abortion with Tubal Pregnancy; Three Cases. (Abortversuche bei fehlender Schwangerschaft und bei Tubargravidität.) P. Jung.
138 Eleventh Case of Artificial Vagina Made from Intestine. (Bildung einer künstlichen Vagina aus dem Dünndarm.) Papanicol.

131. Management of Third Stage of Labor.—Reich has paid special attention to the effect displayed by various methods of management of the third stage of labor on the hemorrhage after cesarean section. His experience showed that the more rapidly the child was extracted after the uterus had been opened, the less the hemorrhage. Also that when the separation of the placenta was left to the natural forces, while the uterus was held in concentric compression (what he calls the English or Dublin method), the hemorrhage was least severe. Restricting the hemorrhage to the minimum is of extreme importance for rapid convalescence, and the concentric compression best guarantees this, he declares. He has applied it systematically in the last 800 maternity cases with excellent results.

135. Fatal Camphor Intoxication After Prophylactic Injection.—Rübsamen's patient was a woman requiring panhysterectomy for an ovarian cyst with adhesions. The operation was done under light scopomorphin-ether anesthesia. Before suturing the wound, 170 c.c. of the standard 10 per cent. camphorated oil was poured into the abdominal cavity. The pulse was 130, regular and full. The patient died two days later, the pulse climbing to 160; the necropsy findings pointed to camphor poisoning. All but 70 c.c. of the 10 per cent. camphorated oil had been absorbed from the abdominal cavity.

Zentralblatt für innere Medizin, Leipsic

August 3, XXXIII, No. 31, pp. 773-796

139 *Importance of Salicylic Medication in Chorea. (Ueber Sydenham's sche Chorea.) F. W. A. Weber.

139. Chorea.—Weber treats chorea as if it were a case of acute articular rheumatism, and has been much pleased with the results. He has the tonsils removed as an additional measure in case there is suspicion of anything wrong in them. He does not hesitate to give children from 1.5 to 3 gm. of sodium salicylate daily or from 0.6 to 2 gm. of salicylic acid, supplemented by sweating procedures if the heart is in good condition.

Brazil Medico, Rio de Janeiro

July 15, XXVI, No. 27, pp. 273-282

140 Case of Toxoplasmosis in the Dog. L. Milliagno.

July 22, No. 28, pp. 283-294

141 Venereal Granuloma and Its Microbe. H. de B. Aragão and G. Vianna.

August 1, No. 29, pp. 295-304

142 Certain Signs of Paralysis Agitans. A. de Castro.

Gazzetta degli Ospedali e delle Cliniche, Milan

July 16, XXXIII, No. 85, pp. 881-888

143 Dubious Findings in Regard to Sulphur Reaction in Urine of Cancer Patients. (Reazione specifica nell orina dei cancerosi?) G. Malan.

July 18, No. 86, pp. 889-896

144 Advantages of Picric Acid in Various Fields of Medicine. V. Brun.

July 21, No. 87, pp. 897-912

145 Invasion of the Blood by Various Germs. (Concetti moderni della invasione schizomicetica ematica e della suppurazione.) E. Bertarelli.
146 *Proteolytic Test of Pancreas Functioning. (L'esame della funzione pancreatica studiata con la ricerca del fermento proteolitico.) G. Libertini.

July 23, No. 88, pp. 913-920

147 Results of Twelve Years of Prophylaxis of Yellow Fever. (Resultati della profilassi contro la febbre gialla dopo dodici anni di applicazione.) E. Bertarelli.

July 28, No. 90, pp. 929-944

148 Bactericidal Action of Alcohol. E. G. Sottile.

July 30, No. 91, pp. 945-952

149 *Hematoma in Pelvic Cellular Tissue. (Ematoma o trombo del cellulare pelvico.) R. Cingalia.

August 1, No. 92, pp. 953-960

150 Disadvantages of Ether Anesthesia by Way of the Rectum. (La eteronarcosi rettale non e preferibile alla cloroonarcosi.) N. Federici.

146. Tests for Pancreas Functioning.—Libertini has applied the proteolytic test in fourteen cases and found the response harmonize with the clinical findings and the results of other tests. In one patient with mild diabetes the pancreas seemed to be functioning nearly normally, the trypsin index being 1 to 20 and the amylase 1 to 430, while in another case, in which the diabetes was very severe, the trypsin index was 0 and the amylase 450. Normal findings in regard to proteolysis are not conclusive, but the absence of trypsin or its presence only in small amounts demonstrates that the pancreas

is not functioning properly. He summarizes the various methods of applying the test; Carpi's method (1910) seems most exact but he preferred Schlecht's simple technic, namely, dropping a gelatin capsule, weighing exactly 1 gm., into each of a set of test-tubes containing stool diluted with water to a concentration of 1.01, 1.2, 1.3, 1.4, or 1.5. The amount of fluid in each tube is reduced to 1 c.c. before the capsule is added, and the more or less rapid digestion of the capsule is the reaction on which the test is based. The index is the dilution of the stool in the test-tube giving the reaction after the set of tubes has been kept at 40 C. for an hour. The patient takes an active purgative the evening before to hasten the stool along before bacterial action becomes pronounced. This also increases the ferment content of the stools. It is best to keep the patient on a standard diet for a day or so beforehand to facilitate comparison of the findings.

140. **Hematoma in the Pelvic Cellular Tissue.**—Cinaglia remarks that while a hematoma in the vulva or vagina is readily diagnosed, this may be more difficult with a hematoma in the pelvic cellular tissue, which may long escape recognition. The rapid development is suggestive, as also the spherical form of the tumor, its elastic consistency, the severe pains and especially its location on the side. Treatment should be expectant as a rule unless the anemia compels speedy operation. The hematoma is generally absorbed but rupture or infection of the hematoma is possible. Continuous pains and fever suggest infection and require prompt operative measures, as also when the hemorrhage is threatening. In a personal case reported the hematoma developed during delivery and severe pain kept up afterward but as the pulse and general condition were good, Cinaglia merely gave a little morphin and applied ice to the ecchymotic area which gradually developed in the vulva, buttocks and perineum. The pains ceased in three days and the blood was gradually reabsorbed until only a few traces were left by the end of the second week.

Riforma Medica, Naples

July 20, XXVIII, No. 29, pp. 785-812

151 *Test for Hyperchlorhydria. (Considerazione sopra una personale reazione atta a dimostrare un eccesso di HCl nel succo gastrico.) A. Cipollina.

152 Advantages of Inguinal Method of Access to Femoral Hernia. (Dei vantaggi del metodo inguinale di cura radicale delli ernia crurale dimostrati i un caso di ernia inguino-crurale strozzata.) E. Magni.

July 27, No. 30, pp. 813-840

153 *Sulphur Reaction in the Urine of Cancer Patients. (La nuova reazione dello solfe nelle urine dei cancerosi di Salomon-Saxl.) M. Mazzitelli.

154 *The Acetic Acid Sputum Test in Diagnosis of Tuberculosis. (La reazione di Rivalta introdotta nell'esame degli espettorati; sua importanza diagnostica.) R. Casali.

155 Venous Thrombosis in Infants; Three Cases. (Sulla trombosi delle vene nell 'eta infantile.) E. Mensi.

August 3, No. 31, pp. 841-868

156 Aneurysms of the Sinuses of Valsalva. T. Carpentieri.

151. **Color Test for Hyperchlorhydria.**—Cippolina here brings the evidence down to date in regard to the color test he published eight years ago. Further experience has confirmed its reliability, he says, if certain simple precautions are observed, and the reaction is complete in two or three minutes. He gives first a test breakfast of 200 gm. boiled potato, well salted, with 200 c.c. of white wine diluted to one-third. The test is made by mixing 2 c.c. of filtered gastric juice with 0.5 c.c. of anilin water and then adding 4 or 5 drops of the standard solution of sodium hypochlorite. A yellow tint and the tendency of the water to become turbid show that there is little if any acid present. With a persisting violet tint, the test should be repeated with gastric juice diluted to one-half with distilled water. Persistence then of the violet tint indicates that there must be more than the maximal normal proportion of HCl. The reaction is very sensitive, even a fraction of a milligram of HCl sometimes turning the scale in favor of the yellow or violet tint.

153. **Sulphur Reaction in the Urine With Cancer.**—Mazzitelli has applied Salomon and Saxl's technic in fifty cases with especial reference to the findings in cancer cases with or without cachexia. In eighteen cases of cancer without cachexia the reaction was positive in fourteen, and in all but two of the ten patients with tuberculosis. The reaction was positive in sixteen of twenty-six patients with cachexia of various origin, including eleven with cancer and four with tuberculosis. In the tuberculous giving a positive reaction were two patients with advanced apical processes but no fever, one with a febrile process in the knee, and three with moderate apical findings. One patient with the juvenile form of diabetes responded positively, and one with influenzal bronchitis. [The technic for the test was described recently anew in The Journal, Aug. 31, p. 738.]

154. **Rivalta's Acetic Acid Test for Albumin in Sputum.**—Casali has slightly modified this test which seems to be of value in differentiation of tuberculosis (it was described in The Journal, July 9, 1910, p. 178), and tabulates the findings in sixty-three patients with various affections including thirty-four with tubercle bacilli in the sputum. They show that, if lobar pneumonia can be excluded, the findings of the test may be regarded as conclusive when the sputum is diluted to above one-tenth, positive findings testifying to the presence of a tuberculous process in the lungs. He reviews the history and mechanism of the test and experiences in this line on record. Ten c.c. of sputum are thoroughly stirred with 10 c.c. of distilled water and then slowly filtered. Two drops of acetic acid are stirred into a glass containing 100 c.c. of distilled water. Holding the glass before a light, a drop of the filtrate is cautiously dropped into the fluid. In case of a positive reaction, the drop becomes surrounded with a little cloud as it falls through the fluid. By graduated dilution of the filtrate with a weak solution of sodium carbonate (one drop in 100 c.c. of water), the test can be carried to its extremest limits.

Hospitalstidende, Copenhagen

July 24, LV, No. 30, pp. 833-856

157 Principles of Dietetics. (Diætmodifikation—Diætform. Diætforordning—Diætgennemførelse.) C. Jürgensen. Commenced in No. 29.

158 Balanitis as Complication of Gonorrhea. (Om Forholdet mellem Balanitis areata og de endogene gonorrhoiske Lidelser.) O. Haslund.

July 31, No. 31, pp. 857-880

159 The Carbon Dioxid Tension in the Alveolar Air in Acute Febrile Diseases. (Undersøgelser over Kulsyrespændingen i Lungernes Alveolærluft ved akut febrile Sygdomme.) L. S. Fridericia and O. Olsen.

August 7, No. 32, pp. 881-904

160 A Case of Bradycardia with Changes in the Bundle of His-Tawara. (Et Tilfælde af Bradycardi med Forandringer i His-Tawara's Bundt.) O. V. C. E. Petersen and H. C. Hall.

Ugeskrift for Læger, Copenhagen

July 18, LXXIV, No. 29, pp. 1047-1076

161 *Treatment of Eclampsia with Injection of Air Into the Mammæ. (Behandling af Ekklampsi med Luftinjektion i Mammæ.) C. de Fine Licht.

July 25, No. 30, pp. 1077-1106

162 Trichinosis in Denmark. (Bidrag til Trikinosens Forekomst i Danmark.) H. M. Høyberg.

August 1, No. 31, pp. 1107-1144

163 Catarrh in Greenland. (Erfaringer om Luftvejskatarrers Optræden i Grønland.) A. Bertelsen.

August 8, No. 32, pp. 1145-1174

164 Rapid Treatment of Scabies. (En ny Hurtigkur mod Fnat.) E. L. Ehlers.

165 "Recurrence" of Cancer Sixteen Years After Removal of Adenoma in the Mamma. S. Hansen.

161. **Injection of Air Into the Mamma in Treatment of Eclampsia.**—This measure has proved its efficacy in an afebrile affection common in cows after calving; the cow may be healthy and strong, but a few days after calving, paresis develops and the animal falls and is unconscious. Convulsions are sometimes observed and the animals died as a rule, until it was discovered that injection of a solution of potassium iodid into the udder put an end to the disturbances. Later it was found that the same benefit was derived from injection of air alone, by a bicycle pump. Licht thought that possibly puerperal eclampsia might be amenable to the same measure, and he reports its application in three clinical cases. In every instance the convulsions ceased after the injection of air from a morphin syringe. A total of 300 or 400 c.c. of air was injected at five or six points around each nipple, supplemented by the usual measures. No by-effects were observed from the injection of air, but one patient succumbed later to puerperal sepsis.